10¢ A COPY

The OIL WEEKLY

Exclusively Devoted To The Production and Transportation of Oil and Gas

July 13, 1928 Volume 50. No. 4

"Inherited Performance"

IN THE DEVELOPMENT AND PERFECTION OF THE HUGHES ROLLER CORE BIT, THE HUGHES TOOL COMPANY HAS GIVEN ADDITIONAL EMPHASIS TO ITS KNOWN POLICY OF PRODUCING ONLY TOOLS THAT WILL EFFECT A WORTHWHILE SERVICE AND ECONOMY TO THE INDUSTRY.

IN THE MANUFACTURE OF THIS NEW PRODUCT HAVE ENTERED THE MANY YEARS OF LABORATORY AND FIELD TESTS AND CLOSE ASSOCIATION WITH THE PROBLEMS OF THE INDUSTRY THAT MADE POSSIBLE THE OUTSTANDING SUCCESS OF OTHER HUGHES TOOLS.

IT MAY TRULY BE SAID THAT THE HUGHES ROLLER CORE BIT HAS INHERITED THOSE QUALITIES OF DESIGN, MATERIAL AND MANUFACTURE THAT INSURE SUPERIOR PERFORMANCE.

Sold by Supply Stores Everywhere

The HUGHES ROLLER CORE BIT

for uncontaminated Cores in Hardest Formation

Hughes Tool Company

Service Plants: Los Angeles, Calif. Oklahoma City, Okla.

Main Office and Plant HOUSTON, TEXAS

Export Office: Woolworth Bldg., New York City

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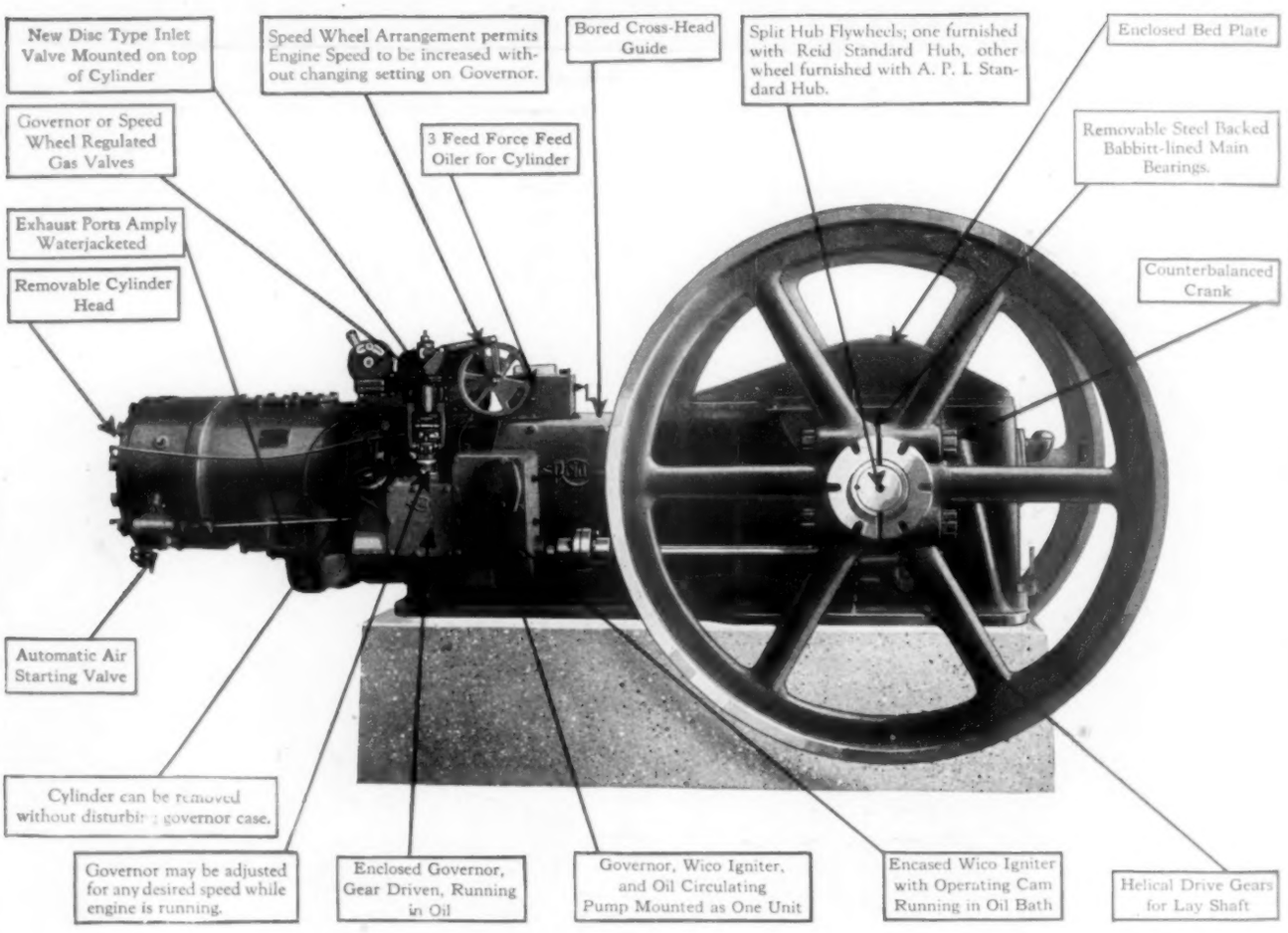
THE REID

Type C Enclosed Two Cycle Gas Engine with these outstanding features—


New Disc Type Inlet Valve Mounted on top of Cylinder
Speed Wheel Arrangement permits Engine Speed to be increased without changing setting on Governor.
Bored Cross-Head Guide
Split Hub Flywheels; one furnished with Reid Standard Hub, other wheel furnished with A. P. I. Standard Hub.
Enclosed Bed Plate
Governor or Speed Wheel Regulated Gas Valves
3 Feed Force Feed Oiler for Cylinder
Removable Steel Backed Babbitt-lined Main Bearings.
Exhaust Ports Amply Waterjacketed
Removable Cylinder Head
Counterbalanced Crank
Automatic Air Starting Valve
Cylinder can be removed without disturbing governor case.
Governor may be adjusted for any desired speed while engine is running.
Enclosed Governor, Gear Driven, Running in Oil
Governor, Wico Igniter, and Oil Circulating Pump Mounted as One Unit
Encased Wico Igniter with Operating Cam Running in Oil Bath
Helical Drive Gears for Lay Shaft

—makes you want the complete information—doesn't it?

Ask for Bulletin No. 37

JOSEPH REID GAS ENGINE COMPANY
OIL CITY, PENNSYLVANIA, U. S. A.

BRANCHES AND AGENCIES—Marietta, Ohio; Logan, Ohio; Newark, Ohio; Shreveport, La.; Charleston, W. Va.; R. B. Moore, Bolivar, N. Y.; Frick & Lindsay Co., Bradford, Penna; and Kentucky Distributors; S. R. Shoup, 724 Board of Trade Bldg., Los Angeles, Cal.; Frick-Reid Supply Company, Tulsa, Oklahoma, and Branches, Distributors for Oklahoma, Kansas, Texas, Arkansas and Wyoming. Branch Shop, Tulsa, Oklahoma.

EXPORT REPRESENTATIVES: Oilfield Equipment Co., 30 Church St., New York City. Branch Shop: Tulsa, Okla.

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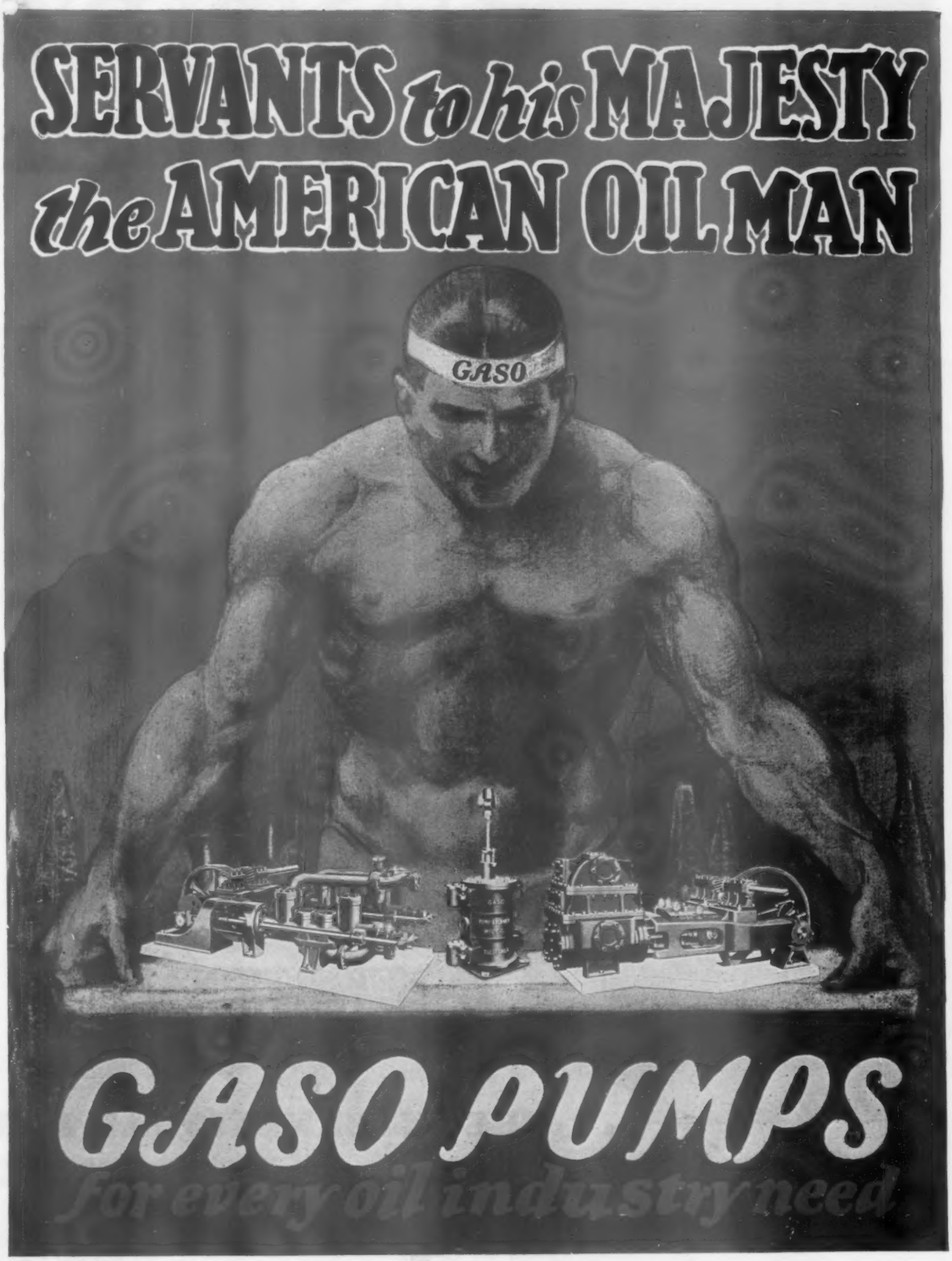
SERVANTS to his MAJESTY
the AMERICAN OIL MAN
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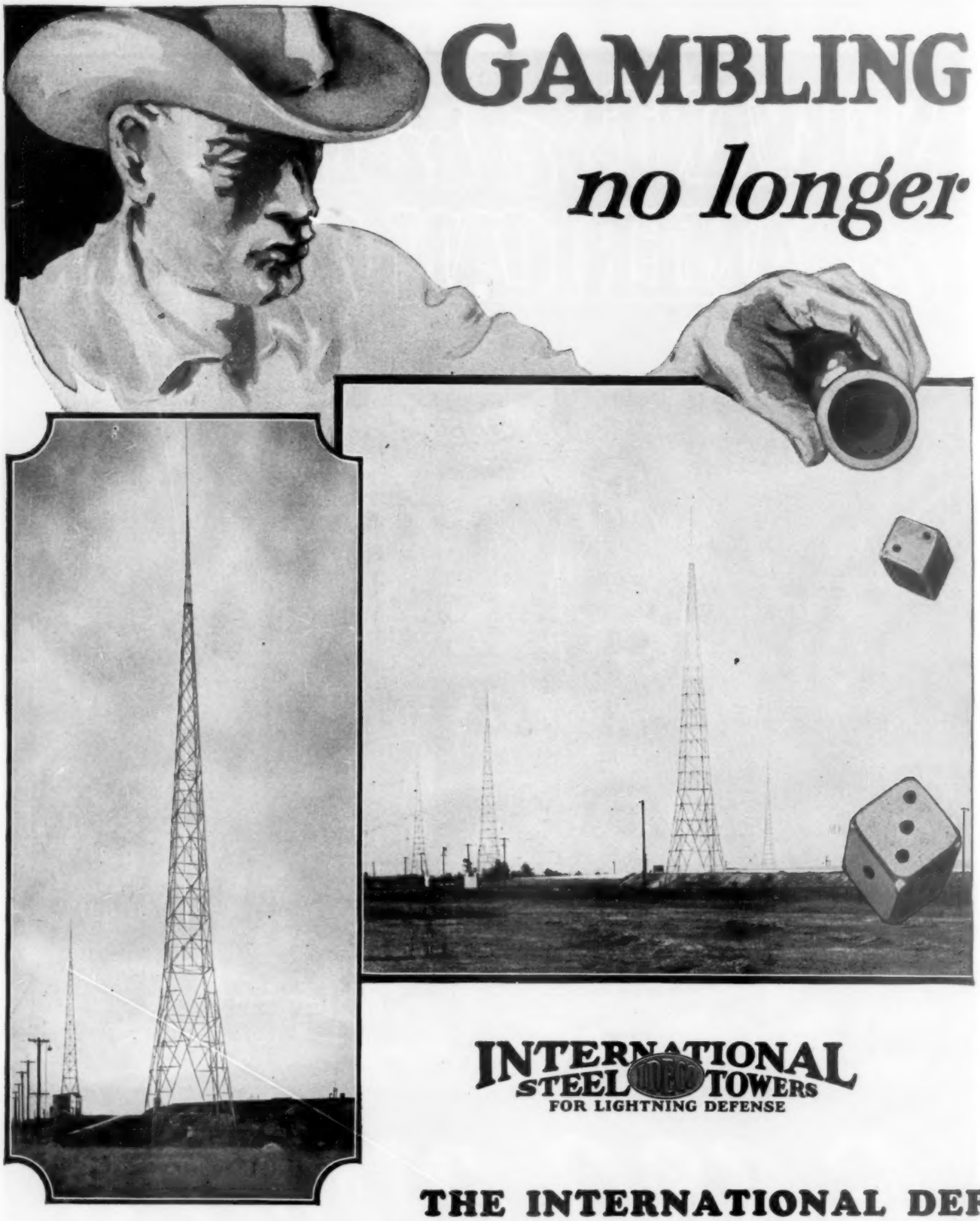
GASO PUMPS
for every oil industry need



GAMBLING *no longer*

200' IDECO Lightning Defense Towers in use defending California Tank Farm.

INTERNATIONAL STEEL IDECO TOWERS
FOR LIGHTNING DEFENSE

THE INTERNATIONAL DER

Dallas	Borger
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Mexia	Pampa
Wichita Falls	Panhandle
Pyote	Shreveport
Amarillo	Oil City
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The largest company devoted exclusively equipment for the oil, gas

COLUMBUS, OHIO

California
National Supply

Export Representation: 74 Trinity Place, New York City

Say you saw it in The OIL WEEKLY

with Lightning *necessary*

The many disastrous oil fires and arsenal explosions caused by lightning during the past few years have created a demand for more adequate protection. Scientists and electrical engineers have incorporated in their various systems of Lightning Defense IDECO Lightning Defense Towers.

We have illustrated a typical tank farm installation in California where 200′ IDECO towers were used. The number of towers required depends upon the system of lightning defense used, the area to be protected and the height of the towers.

IDECO Steel Lightning Towers are made of the same fine structural steel as is used in IDECO Derricks. They stand up in all wind and weather and are hot dip galvanized to guard against rust and corrosion.

Put your lightning defense problem up to our engineers. They have made an intensive study of the subject. A request for information entails no obligation.

INTERNATIONAL STEEL IDECO TOWERS
FOR LIGHTNING DEFENSE

439

RICK & EQUIPMENT CO.

to the manufacture of steel (galvanized) and artesian industries.

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The *first* *successful* heat-treated sucker rod ✣

✣ It is quite generally known that the D+B was the first successfully heat-treated sucker rod.

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D+B *api specifications*
HEATREAT
SUCKER RODS

Say you saw it in The OIL WEEKLY

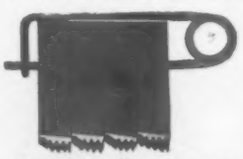
A Letter from Harry G. Nye

Nye Drop Forged Pipe Cutter

No. 1-A ⅛ to 1¼" .....$2.25 net
No. 2-A ¼ to 2" ..... 3.00 net
No. 3-A 1 to 3" ..... 5.00 net

Nye Saunders Pipe Cutter

No. 1 .....$1.80 net
No. 2 ..... 2.70 net
No. 3 ..... 6.60 net
No. 4 ..... 10.80 net
No. 5 ..... 16.80 net



NYE (Toledo Type) Chasers Fit Nos. 1, 1A and 2 NYE (Toledo Type) Stocks

Each set is guaranteed in every particular. Will cut much easier than other similar dies.

No. 1, 1" to 1¼" ..$ .75 per-set net
No. 1, 2" .....$1.25 per set net
No. 2, 2½" to 4" ..$3.60 per set net

The No. 1A is the same as the No. 1, except that it is equipped with a ratchet for work where space is restricted.

No. 1A Nye Receding Pipe Threader, complete ...$12.00 net
West of Rocky Mountains $13.50

NYE NO. 2
(Toledo Type)
Geared Threading Device Improved

Capacity 2½ in. to 4 in. inclusive. This tool has the same rugged construction as the No. 1 and No. 1A Nye Receding stocks. A ratchet handle and a spider hub threaded for 1-inch pipe is furnished as standard equipment.

Net price complete $50.00
West of Rocky Mountains .. 55.00

FREE TRIAL—ABSOLUTELY GUARANTEED

To the Oil Men of the U. S. A.

Dear Friends:

A doctor friend of mine—not my doctor, you understand, but a friend of mine—that's why he is a friend of mine—anyway a doctor who knows that I know something about salesmen brought me a case the other day. Now don't misunderstand me; I mean a case of sickness. It was a very strange case indeed—it was like this: he had a patient, a salesman, who was going insane because he couldn't get his mind off his work.

Yes, I said salesman. So the doctor came to me because he knew I was a salesman and asked me if I could suggest anything to take a salesman's mind off his work.

SAY, COULD I? I asked him if he had tried liquor. Being a doctor he hadn't. Well I told him to get the young man interested in bootleggers and their product and to keep telling him he could stand more liquor than any man he ever saw without hurting him. That sure would fix him. And then, if that didn't do, had the young man ever bet on horse races? Get him to follow the ponies; not with a broom, I don't mean, but with a form sheet, which is worse. Let him think that he knows just how the horse will run, when the man who owns it hasn't the least idea.

Or if he doesn't care for the ponies, let him tackle the stock market. Let him buy a few stocks and get his friends to give him a few tips. Get him to go up against Wall Street and persuade him to purchase a few gilt edge lemons on margin. In a couple of weeks he won't look at a price list.

Well, I saw the doc the other day and I says, "Doc, how's your man? Has he got his mind off his business?" And he says, "Yes, completely cured.' "Liquor?" "No." "The ponies?" "No.' "Stocks?" "No." — "No, it is a yellow haired waitress he met at Logansport." Give the fellow credit—he had hit on the surest cure himself.

I do not know anything that will take a man's mind off his business quicker or keep it off longer than a yellow haired waitress and I know only one thing that works faster or smoother and does a completer job than a yellow haired waitress and that's a Nye Die. You are safe in recommending them to your oil friends. Nye Dies, I mean—in fact, using Nye Dies, is what makes your choicest customers.

Your friend,

HARRY G. NYE,

Otherwise Known As

THE NYE TOOL & MACHINE WORKS

4120-30 Fullerton Avenue

Chicago, Ill.

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The rugged construction and few working parts account for the simplicity and durability of these Nye Receding models. They do the work easily and efficiently.

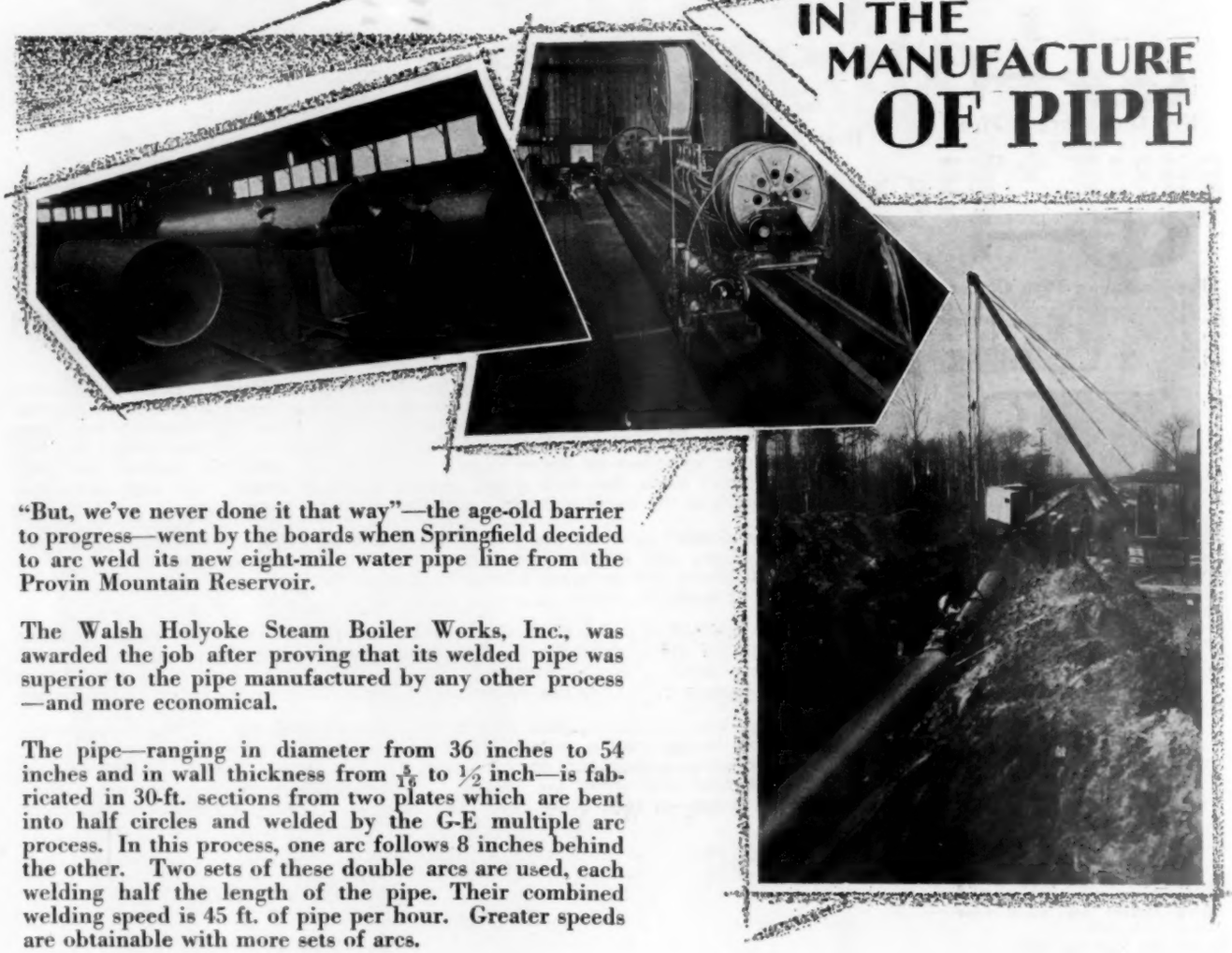
No. 1 Nye Receding Pipe Threader, complete ....$9.60 net
West of Rocky Mountains $10.80

Nye thin blade cutter wheel, made to fit all standard makes of pipe cutters, and guaranteed against breakage in use. Made both in smooth and knurled edge.

Nye Self-Locking Vise

No.	Pipe	Vise, Complete Net
00	⅛ to 2 "	$2.82
10	⅛ to 2½"	3.34
20	¼ to 3½"	5.00
30	½ to 4½"	7.33

A NEW ERA IN THE MANUFACTURE OF PIPE



"But, we've never done it that way"—the age-old barrier to progress—went by the boards when Springfield decided to arc weld its new eight-mile water pipe line from the Provin Mountain Reservoir.

The Walsh Holyoke Steam Boiler Works, Inc., was awarded the job after proving that its welded pipe was superior to the pipe manufactured by any other process —and more economical.

The pipe—ranging in diameter from 36 inches to 54 inches and in wall thickness from $\frac{5}{16}$ to $\frac{1}{2}$ inch—is fabricated in 30-ft. sections from two plates which are bent into half circles and welded by the G-E multiple arc process. In this process, one arc follows 8 inches behind the other. Two sets of these double arcs are used, each welding half the length of the pipe. Their combined welding speed is 45 ft. of pipe per hour. Greater speeds are obtainable with more sets of arcs.

The country is fast coming to all-welded pipe lines. Are you preparing for this new method of manufacture? Remember, to pioneer is to obtain a commanding lead in your field.

G-E equipment, including electrode wire, was used exclusively on this job. Further information is available through your nearest G-E office.

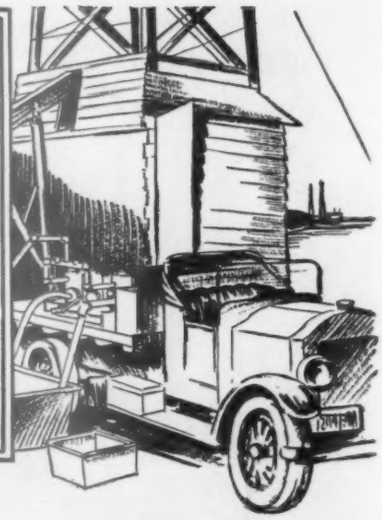
THE MORE YOU ARC WELD THE MORE YOU SAVE

530-50

GENERAL ELECTRIC

GENERAL ELECTRIC COMPANY, SCHENECTADY, N. Y., SALES OFFICES IN PRINCIPAL CITIES

End Drilling Delays

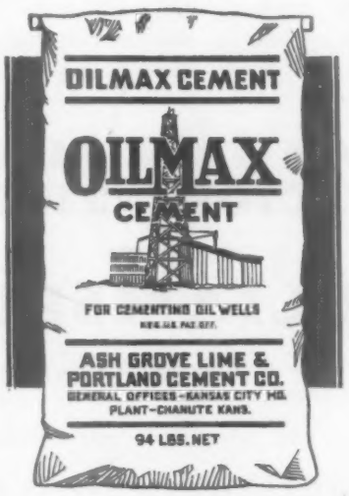


Use OILMAX Cement *for* Casings and All Difficult Hole Conditions

HERE'S a cement, prepared *solely* for cementing oil wells, that has more than proved its worth in actual performance. Used neat only, it gets *as hard* in 24 hours as Portland Cement in ten days — and requires no accelerators or admixtures. You can set your casing with Oilmax today and safely resume drilling in 48 hours—*at the most!*

And Oilmax Cement will set up satisfactorily under the unfavorable conditions common to oil field operations. It is specially compounded to set up normally in salt water or water containing oil, sodium chloride, magnesium chloride or calcium sulphate. But it is *not* quicksetting. It takes its initial and final set just like Portland Cement, allowing ample time for mixing and placing, no matter how deep the hole.

Most important is the fact that Oilmax sets and hardens *evenly.* With a uniform mix, made easy because only water is added, weak or soft spots are *eliminated.*



Large operators have found Oilmax a great time-saver in setting casings, shutting off water, straightening crooked holes, plugging back, cementing off lost tools, filling cave-ins or caves and all difficult bottom hole work.

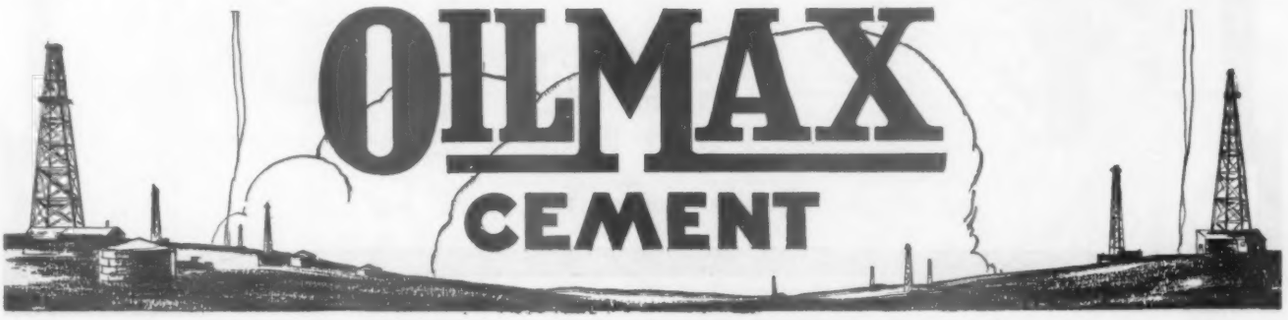
Oilmax is a true Portland Cement, meeting all Govt. and A. S. T. M. specifications. It is unusually plastic, slips easily and quickly and will work equally as well in bailer or pump. Speed up your drilling operations. Cut costs by saving time and averting expensive mishaps. Use Oilmax—and be sure of a job!

Available Through Dealers

You can secure Oilmax Cement through legitimate retail dealers. Packed in sturdy 5-ply paper bags, it may be shipped in mixed cars with Ash Grove Portland Cement or Quikard Cement. If your dealer does not stock it, write or phone us for complete information.

(12)

Produced Only by
ASH GROVE LIME & PORTLAND CEMENT CO.
Founded in 1882
General Offices: KANSAS CITY, MO.
District Sales Office: OKLAHOMA CITY, OKLA.
Petroleum Building, Phone Maple 0642



When these reels of lines go into service, the driller will know exactly their make and grade—because they are

TELFAX TAPE MARKED and FACTORY CERTIFIED

—by—

WILLIAMSPORT

these facts are of more value to a driller or the man or men paying for the drilling than the entire cost of the lines.

Write us for further reasons why you should prefer Williamsport Drilling Lines.

WILLIAMSPORT WIRE ROPE COMPANY

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USE MADESCO TACKLE BLOCKS, THEY STAND THE GAFF

Say you saw it in The OIL WEEKLY

"In This Building You Will Find–

The Jarecki store at Clarendon, Pa., has been serving the oil equipment needs of the territory since 1882.

One of the World's Largest Stocks of Oil Field Supplies"

and every JARECKI *store contains a miniature of that stock*

So that the industry JARECKI has served for 76 years may be constantly supplied, there is maintained at Erie one of the largest and most comprehensive stocks of oil field equipment in existence. • • • • Here you will find midget valves and giant valves—vast numbers of fittings for every imaginable purpose—drilling equipment—pumping equipment—pipe machines—*everything used or needed about an oil or gas lease.* • • • • And distributed through the oil field are JARECKI stores, each containing stocks patterned after the parent one at Erie. • • • • JARECKI has enjoyed more than three-quarters of a century of growth and good will because it not only makes it *convenient* to buy but also because of the ingredients it puts into its products. One of the most important of these ingredients is *experience.*

Jarecki

MANUFACTURING COMPANY

Home Office and Factory—Erie, Pa., U. S. A.
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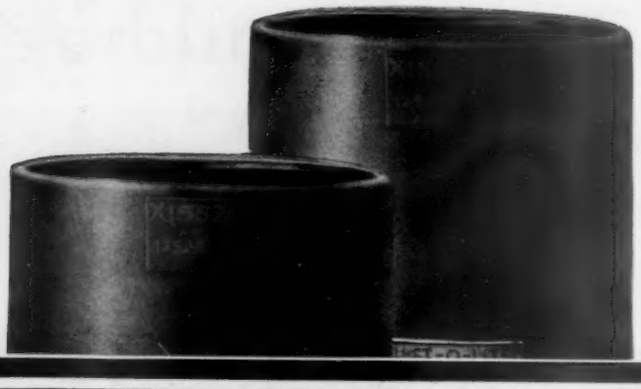
Branch stores at all important places in the Oil Country.

District Offices { Pittsburgh, Pa.; El Dorado, Kan.; Tulsa, Okla.; Newark, Ohio; Eastland and Dallas, Texas; Lawrenceville, Ill.

Say you saw it in The OIL WEEKLY



Why we advertise

Prest-O-Lite

DISSOLVED ACETYLENE

PREST-O-LITE is a standard product—tried and proved. It has been the leader of the industry for 23 years. Its uniform high quality and country-wide delivery service are facts well-known to every user. Prest-O-Lite is readily available from

31 *Producing Plants*—102 *Warehouses*

But every day new users of the oxy-acetylene process are springing up. We want these newcomers to profit by the experience of the old-timers. And so we advertise that they may know that Prest-O-Lite is the dissolved acetylene of American industry.

THE PREST-O-LITE COMPANY, INC.
Unit of Union Carbide and Carbon Corporation
UCC
General Offices: Carbide and Carbon Building
30 East 42d St., New York
31 PLANTS—102 WAREHOUSES

Wilson Casing Tong
with Rollover Lever

New Rollover Feature
—for instant reversal from right to left, or vice versa.

Spring-Latch Feature
—latches Tong automatically, keeping it securely locked.

2-Step Feature
—permits tonging of different diameters. One Tong size fits casing and coupling.

Spring Dowel Pins
Bushings can be slipped into place instantly. No bolts. Spring dowels hold them in place.

Equalized Pressure
The design is fundamentally correct, permitting proper application of force. An even grip prevents crimping or crushing of pipe or casing.

10-inch for Rotary
The 10″ casing tong can be bushed to fit rotary sizes.

Carried in stock by your supply companies

Wilson Oil Tools Corp.
DISTRIBUTORS FOR
Wilson & Willard Mfg. Co.

Factory and Distributor's Office — It's a Wilson — 2301 East Vernon Ave. *Los Angeles, Calif.*

SALES REPRESENTATIVES
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FIRST IN

Safety, Speed, Strength, Convenience

Say you saw it in The OIL WEEKLY

PRODUCTS OF SPECIALIZATION

Seamless

CASING

TUBING

STANDARD

DRILL PIPE

LINE PIPE

STILL TUBES

Sizes 2 inch to 13⅜ inch O. D.

Welded

STANDARD PIPE

CASING

TUBING

ETNA

LARGE O. D. PIPE

LINE PIPE

DRIVE PIPE

DRILL PIPE

Sizes ⅛ inch to 24 inch O. D.

SINCE 1828

SPANG, CHALFANT & CO., INC.

GENERAL OFFICES, CLARK BUILDING

PITTSBURGH, PA.

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Say you saw it in The OIL WEEKLY

Another Record

JUNE 22, 1928

THE OIL WEEKLY

16

Long Beach Production Climb Halted Around 200,000 Barrels

Decline of older producers serves to offset output of new wells; locations being made to replace completions from week to week

LOS ANGELES. — Long Beach seems to be in the throes of that famous "tired feeling," so common to all critical areas after a few months of sizzling activity. Production continues to hover above 200,000 barrels, gaining slightly over the previous week, but the decline from the deep wells was not to be denied, and eight completions were required to keep the yield above that of the previous week. A difference of opinion exists as to whether the field is due for a plunge downward or is only temporarily resting on its past laurels. A survey of the field shows that 194 wells are drilling for the lower zone, an almost unbelievable number when it is recalled that 135 wells have already been completed. Of the total number drilling, 162 have been started from the surface and 32 are being deepened. More than 40 wells are due for completion during the next month, with the possibility that the number may be nearer 50.

Encouraged by slight extensions, locations are being made a good distance outside the present producing area. George Langstaff's Bixby 1, located 540 feet west and 200 feet north of the northwest quarter of the intersection of Wardlow Road and the Pacific Electric right-of-way, is attracting wide attention. The well is located about 400 feet west of the old United Oil Company's Bixby 2-1, sometimes known as the United-Amelia which [illegible] was drilled to 4835 feet in 192[illegible] and abandoned. This feature, together with the possibility of a fault line separating [illegible] this location from the Los Cerritos area, makes the well unique among wildcat tests along the fringe of the field, since the original Long Beach uplift may be tapped here, according to some geologists.

New locations are being made at a rate corresponding favorably with the number of completions from week to week. This fact complicates the situation and makes it impossible to predict the outcome of the greatest secondary development ever known in the industry. As long as good wells are completed—and they are almost as large now as three months ago—new locations will be made. The major operators, particularly the Shell Company, will keep their tools busy. Shell plans to keep more than 30 strings busy during the summer.

One good reason for the large number of new locations is the fact that all parts of the field have yielded good wells, making it attractive to develop every nook and corner. The decline from the edge wells has been as slight as those on top of the structure. The producing sand in the edge tracts is thinner than that in the center of the field, but the former is practically the only territory, while productive sand has been coming from a considerable distance in the sand for several miles near the apex. One factor of importance, another, good wells have been found in all parts of the [illegible]

Completions

Completions during the week were: E. B. Campbell, No. 3; initial production 500 barrels; total depth 6090 feet; gravity 28.0; cut 3.4 per cent. George F. and J. Paul Getty, No. 6 (wo); initial production 2000 barrels; total depth 6650 feet; gravity 30.0; cut 1.4 per cent.

Herndon Petroleum Company, No. 6; initial production 1000 barrels; total depth 6213 feet; gravity 30.1; cut 1.6 per cent.

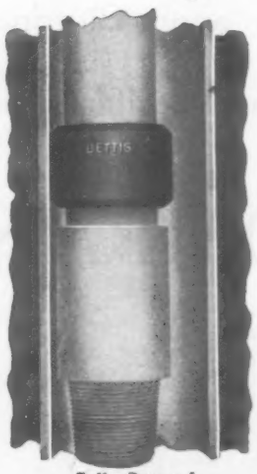
Pan American Petroleum Company, U. P. I. (wo); initial production 1000 barrels; total depth 5805 feet; gravity 28.3; cut 0.2 per cent.

Richfield Oil Company, Haas 16; initial production 3200 barrels; total depth 6326 feet; gravity 29.6; cut 0.1 per cent.

Shell Company, Pickler 7; initial production 700 barrels; total depth 6659 feet; gravity 30.0; cut 1.0 per cent.

Superior Oil Company, Crew 4; initial production 1500 barrels; total depth 6683 feet; gravity 29.6; cut 1.0 per cent.

The Texas Company, Harlow-Kent 9; initial production 1700 barrels; total depth 6700 feet; gravity 29.2; cut 4.0 per cent.



Fully Patented

all of these wells were completed with Bettis Casing Protectors

"Best bet yet!"

Patterson-Ballagh Corp.

3769 Moneta Ave. Los Angeles, Calif.

Bettis Sales Company

Distributors

617 Public National Bank Bldg., Houston, Texas

Stocks carried at Houston, Texas and Louisiana

Here are the requirements for a permanent pipe line corrosion preventive

BITURINE ENAMEL MEETS EVERY ONE

A pipe line coating to permanently solve the corrosion problem must have these qualifications:

1. It must be waterproof.
2. It must be unaffected by soil acids and alkalies.
3. It must have good adhesive qualities.
4. It must not disintegrate with age.
5. It must be incapable of absorption by the soil in contact with it.
6. It must not be affected by underground temperature changes.
7. It must be a dialectric, in order to offer protection against electrolysis.
8. It must be capable of practical and speedy application in the field.
9. It must be unaffected by ordinary handling in the field and not damaged by lowering pipe into the ditch.
10. It must be of substantial thickness.
11. It must be economical.

On this page are shown the 11 qualifications (decided upon by experts) essential in any pipe coating that will give permanent protection against corrosion. BITURINE ENAMEL fulfills every one of them.

For more than sixteen years many leading oil and gas industry executives have been successfully solving pipe line corrosion problems with Biturine Enamel—the permanent corrosion preventive. Hundreds of miles of pipe line have been coated with Biturine Enamel and operators have pronounced it entirely successful in giving permanent protection.

Unaffected by Acids, Alkalies or Electrolysis

Biturine Enamel is a heavy, quick-setting bituminous coating, tough but not brittle. It is applied hot and requires no wrapping. Adheres tightly to metal and will not crack. It is absolutely impervious to corrosive elements.

Biturine Enamel is manufactured by Hill, Hubbell & Company as one of a special line of paints for the oil industry.

No skilled labor necessary to apply Biturine Enamel.

Valuable, practical data and specifications furnished upon request.

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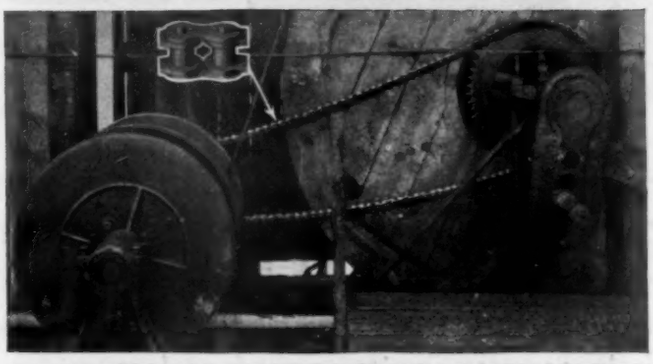

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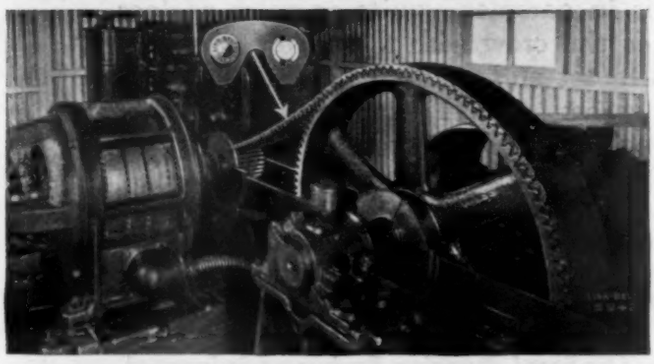

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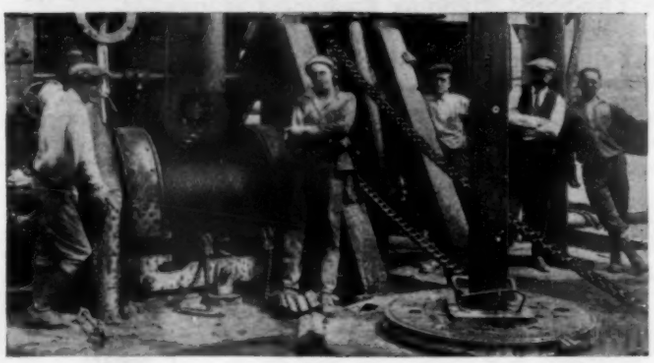

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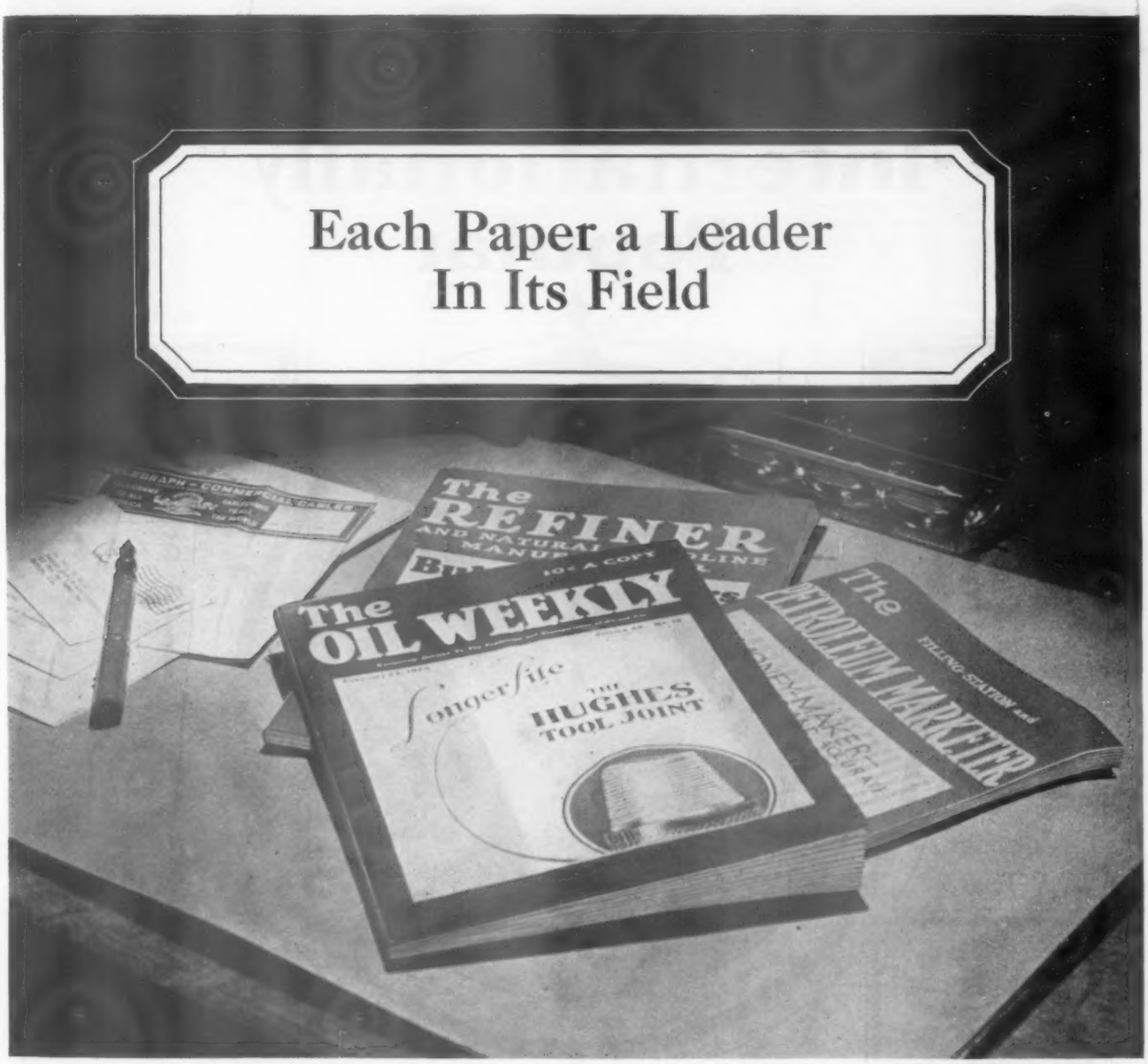

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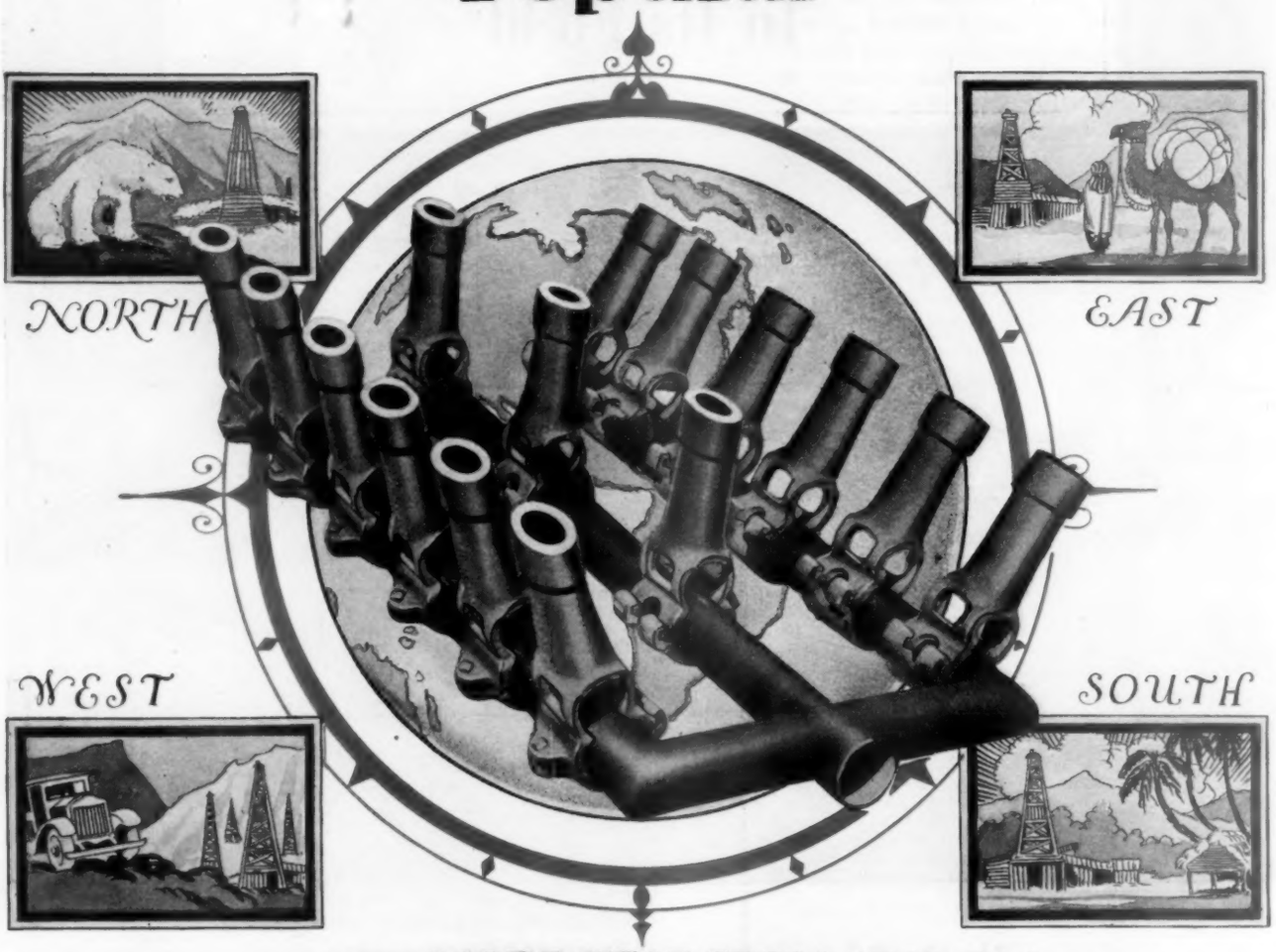

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Volume 50, No. 4 July 13, 1928

The OIL WEEKLY

Edited Weekly at Houston, Texas SPENCER W. ROBINSON, Editor

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West Texas Bargain Crude No Longer Offered

Aggressiveness of larger buyers with pipe lines takes up surplus; unprecedented demand for gasoline boosts market, ruins burning oils

By KENT RIDLEY

A CHANGE of only 300 barrels in the total daily average production of the United States for the week ending July 7, is no change at all considering totals, except that details by sections show that California was up 7000 barrels, following a period of falling off and is now higher than it has been since early last year. Oklahoma continued falling off, being down 6250 barrels, while Texas only gained 1600 barrels, the gain being in the Laredo district rather than in West Texas where the situation is being watched with more interest. In fact, West Texas was down 300 barrels, Pecos County dropping substantially while Winkler County gained. The Gulf Coast was up 2700 barrels but is still under the level of a few weeks ago, as was the case in North Louisiana. Eastern States was up 2000 barrels.

Decreases in production were shown, in addition to Oklahoma, Kansas down 250 barrels, Arkansas, where the new Champagnolle area is not doing so well, down 3600 barrels. The Rocky Mountain area dropped 4550 barrels.

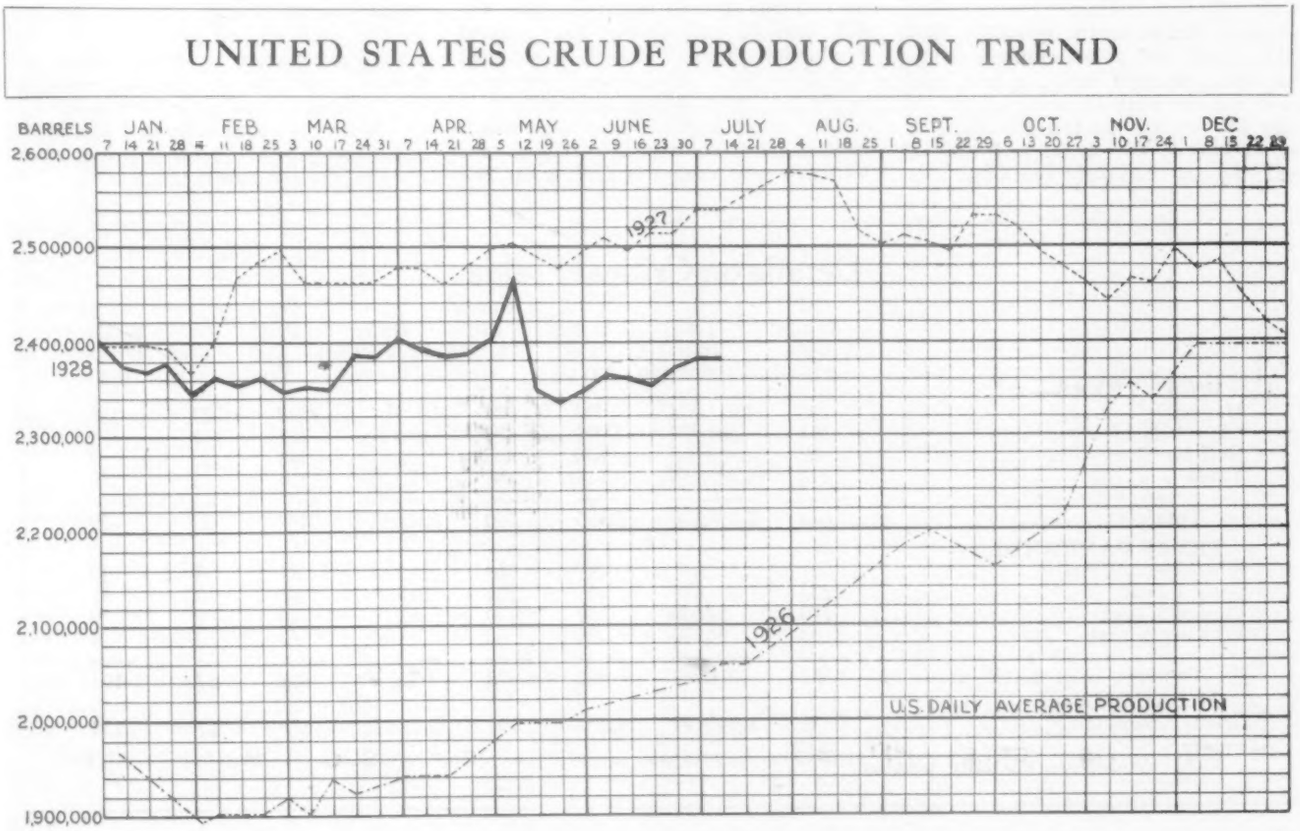
Gasoline Still Advancing

Unprecedented demand for the week of the Fourth gave more strength to the gasoline market and the burning oil situation is still further aggravated by refiners' runs to supply motor fuel. Gasoline is carrying the entire load, including small premiums which independent plants are paying for crude in some sections.

Fuel Stocks

Fuel oil stocks in the North Texas refining district are mounting to burdensome proportions as results of increased plants operating with in the past month or two to meet the growing demand for gasoline. Plant owners have attempted to gain relief from fuel stocks by slashing prices to a new low level of 55 and 60 cents per barrel, but other refining centers have been reducing their prices in like fashion with buyers placing orders where freight rates are advantageous. Expansion of the natural gas industry throughout Texas and adjoining states within the past year is a major factor in curtailing fuel oil requirements from North Texas refineries, while production of the latter product has been unusually heavy because of the volume of gasoline turned out to meet the demand.

Higher prices for gasoline are necessary to absorb the loss in revenue sustained by plant owners on their burning oils, and the U. S. motor gasoline market in the North Texas district was particularly firm at eight cents per gallon early this week, with a number of plants demanding a fraction more per gallon than the latter figure. Gasoline has been the only profitable product manufactured for the past month, and must continue to carry the other refined commodities. The demand for gasoline was hiked to a new mark as result of the heavy consumption that occurred during the mid-week holiday



last week, while excessive temperatures in the Middlewest and Eastern States have stimulated sales to motorists.

North Texas refiners are being adequately taken care of with crude supply through the marketing plan now carried out by Pure Oil Pipe Line Company (Prairie) and The Texas Company, and the bulk of the spot crude purchases are being made from producers in Wilbarger County at premiums ranging from 10 to 15 cents per barrel. The former two companies charge a 10 cent premium for all oil delivered in addition to the average pipe line gathering and delivery charge.

Offers of West Texas crude at "distress prices" have disappeared from the market as result of the attitude of major pipe lines now serving and building into the district towards taking on additional oil for purchase, and the only oil now available at fixed prices over future periods is that being offered by independent refiners. The latter have booked a greater amount of crude than needed on contract over the balance of this year, and in some instances for two years ahead, and are offering to sell off a portion of their daily quota in order to be assured of taking the minimum amount contracted. Failure to take the minimum daily quota will result in forfeiture of contract, thus leaving the plant without a crude supply.

In the wake of what was generally considered over the country to be the most brisk week for retail gasoline sales in the history of the industry, this product at the refinery was demanding a better price by nearly a half-cent average than at this time last year.

United States motor gasoline, 58-60 gravity, 437 end point, climbed during the week to eight cents, a new high mark for the past 12 months. Practically all refiners quoted this price at the middle of the week, and stuff at lower figures than eight cents had been wiped off the market. Increases in consumption indicate that it is going higher, and some predictions name the level at 8½ cents within the next month.

The Mid-Continent territory markets reaped a big harvest over Independence Day with sales running above any equal period for the past year. In the North and East reports state that gasoline sales saw a new peak for any period in the history of the industry.

The biggest purchase of natural gasoline during the week was made in North Texas by Gulf Refining Company, who purchased 500 cars of grade A. Natural is up one-eighth of a cent over the previous week, now selling at seven to 7⅛ cents. Jobbers predict that the differences in naturals will probably be done away with in the near future.

There is a high probability of the weakened burning oil market being pepped up shortly with the opening of the harvesting season in North Texas, Oklahoma and Kansas.

While crude price changes are little talked in the Mid-Continent, the situation is materially better. During the past week there was reported slight withdrawals from Seminole storage—at least pipe line and tank car movements from the fields were totalling more than actual production for five days in the week. Seminole fields reached a new low Friday with 241,664 barrels.

A point in favor of the Oklahoma crude situation is that Little River operators have definitely placed 125,000 barrels as a maximum for the Little River area. This figure allows the field an increase of only approximately 85,000 barrels, considering the present production there of slightly more than 40,000 barrels. The other fields generally are on a steady decline.

The small increase in Long Beach production has not been reflected in a weaker crude market in California. The moral effect of the rise was less apparent than the actual reduction in total stocks. While the rapid climb of the field has never been viewed with alarm, the fact that the peak probably is not far away is considered especially significant at this time. The settled fields are showing a gradual decrease, with the possible exception of Ventura, but the re-proration of runs is expected to bring production down considerably. The visible supply of light crude is little if any greater than the demand, making for a still stronger market. The deep zone at Long Beach will continue an important factor for more than a year, but the consistent performance of this area probably will be offset by the gradual decline of the older fields. State production should decline to 625,000 barrels before the end of the summer, if a part of the oil now shut in is not released.

The gasoline market is still feeling the effects of the recent race to secure exclusive outlets for certain brands of products. Much of the improved tone was lost, leaving this phase of the industry about where it was four months ago. Service station prices remain the same, but the various differentials quoted by large refiners to retail dispensers has affected the harmony which supposedly existed among the major oil companies. Gasoline consumption is unusually high, running slightly above that of last year and incidentally breaking all records. The foreign and Pacific domestic demand is good, with a preference shown toward California gasoline by certain Atlantic seaboard points.

Little change in the fuel oil market was noted during the week. The seasonal demand is only fair, but the reduction in heavy oil production should soon be reflected in smaller fuel oil stocks. Inquiries for contracts running over a long period have been received, the larger companies being inclined to ask slightly above present prices even for the shorter contracts.

Details on Critical Fields

	Oil Wells Completed	Total Initial Production	Initial Per Well	Number Producing Wells	Daily Production Barrels	Daily Prod. Per Well	Rigs Up	Wells Drilling
WEST TEXAS—								
Hendrick	226	1,015,375	4,493	237	174,705	*737	25	156
Church & Fields	184	201,870	1,097	183	38,825	212	1	1
Gulf-McElroy	62	53,960	870	62	15,375	248	..	2
Yates	212	1,386,925	6,542	208	65,750	*316	3	40
Totals	684	2,658,130	3,886	690	294,655	427	29	199
TEXAS PANHANDLE—								
Hutchinson County	1,101	545,050	495	969	35,710	37	5	30
Gray County	233	103,655	445	222	20,855	94	7	57
Carson County	179	59,030	330	149	6,230	42	2	9
Wheeler County	42	14,230	339	33	950	29	3	9
Totals	1,555	721,965	463	1,373	63,745	46	17	105
OKLAHOMA—								
Greater Seminole	1,338	1,645,499	1,229	1,093	241,664	221	27	133

(*) Production partially pinched.

Hendrick Field Drilling Activity Reaches New Peak

Total of 181 operations listed in rush for proration allotment; field extended one location north; Yates field also busy place

By H. H. KING
Staff Representative

SAN ANGELO, Texas.—The productive limits of the Hendrick field were extended one location to the north late last week when the Winkler Oil Producing Corporation's Hendrick 1, located in the center of a 10-acre lease in the northwest corner of Section 33, began flownig by heads with drill stem in the hole at total depth of 3115 feet. The derrick floor and some equipment was damaged by fire originating from a cigaret shortly after the well began flowing, and some delay has occurred in completing the well.

This well indicates a sharp dip in the structure at this point, as it was carried nearly 250 feet deeper than Cranfill and Reynolds' offset producer to the south. The latter well was completed early last month, making 500 barrels per hour at 2868 feet, and topped the big lime at 2584 feet, or 116 feet higher than the north offset just brought in.

Big producers continue to predominate among the completions reported each week from the Hendrick field, but more new wells are making water from the start than heretofore. Enforcement of proration has done much towards maintaining a high rock pressure throughout the field, and it is largely for this reason that operators continue to score new completions rated at five to ten thousand barrels daily.

Drilling operations in the Hendrick field rose to a new high mark during the past week, with indications that the peak will be reached on field work within the next three weeks. This prolific field was credited with having 95 tests drilling in the big lime horizon below the 2300-foot level, or cementing casing and standardizing in the lime, and 61 additional tests drilling above the lime. Total rigs and derricks were placed at 25 at the close of last week, making a total of 181 operations listed. Upon the completion of this work the bulk of the prolific part of the field will have been drilled up, with future work hinging on the drilling of unnecessary inside locations and rounding out the productive limits of the structure on the east side.

The Yates field also rose to a high mark on new drilling at the close of last week, with a total of 40 machines and rigs operating, and three others rigging up to start drilling promptly. This is the largest volume of new work in the field since late last January, while the high mark on drilling tests was reached at the close of 1927 with a total of 50 drilling operations and 18 locations rigging up. This revival of drilling is due to efforts of lease owners with non-producing 100-acre units to place same on production and build up allowable daily production as per terms of the proration plan put in effect July 1. Mid-Kansas Oil & Gas Company and Transcontinental Oil Company, joint interest holders of the largest acreage in the proven area, was conducting the largest drilling campaign, and at the close of last week had 17 machines operating; one rigging up and three locations standing by with cellar dug for the release of a machine from the first group of completions. This new drilling will be completed within 30 or 40 days, and very little new work will follow, since present completed wells in the field are allowed to produce only about two and one-half per cent. daily of their estimated daily potential yield.

V. T. Bolin & Company, Fort Worth operators, are preparing to make a pumper from their wildcat oil producer on the Brown-Allsman land, Section 4, Block B-5, located about five miles east of the Hendrick field. This well was shot recently with 210 quarts in broken lime pay at 2745-2814 feet, with a total depth of 3211 feet, resulting in several small heads of oil when tubing was run. Cavings have interferred with pumping, according to reports.

Cranfill & Reynolds, Inc., have terminated negotiations for the sale of their three tracts, including three big wells, in Section 33, Block 26, located on north end of the Hendrick field, after prospective purchasers failed to comply with sale contract on date specified. This deal involved about $1,500,000 cash consideration.

The prospects of the deep oil pay in the Roberts-Chalk field, located on the Howard-Glasscock County line, being opened up to a maximum of 15,000 barrels daily under proration orders of the Texas Railroad Commission on August 1, will materially increase drilling in this area in order to place production on each of the 40-acre units. More than 12 tests are now drilling below the three shallow oil horizons in search of the 2500 and 2900-foot lime, and several of these will have important bearing on the trend of the deep production to the north of the present proven area. All deep wells in the field are now shut in by voluntary agreement, and for lack of a market outlet, but the latter will be provided immediately upon the publication of the commission's proration order by the Shell Pipe Line Company.

HENDRICK FIELD OPERATIONS

The status of operations in the Hendrick field, West Texas district, at the close of last week is shown below by companies:

Company	Locations and Rigs	Drilling Tests	Tests in Big Lime	Completed Wells	Initial Produc'n	Average Produc'n
Amerada Petroleum Corp	..	..	2	..	.....	.....
Atlantic Oil Prod. Co.	1	3	1	21	106,810	*11,255
Atlantic & Collett-O'Keefe	..	2	2	7	76,000	*15,865
V. T. Bollin & Co. et al	..	..	1	..	.....	.....
The California Company	..	..	..	8	.....	*1,075
Cranfill & Reynolds, Inc.	..	1	2	5	53,825	*8,530
Eastland Oil Company	1	..	1	..	.....	.....
El Paso Prod. Co.	1	..	..	..	.....	.....
Gulf Production Co.	..	3	10	14	80,350	*11,495
Humble Oil & Ref. Co.	3	..	6	26	89,970	*15,795
Independent Oil & Gas Co.	1	3	3	15	61,220	*7,480
Magnolia Petroleum Co.	..	..	..	8	12,335	1,140
Marland Production Co.	1	2	1	4	43,800	*4,660
Murchison & Cranfill Bros.	2	1	1	6	12,675	*2,715
Clint W. Murchison et al	..	1	..	..	.....	.....
Prairie Oil & Gas Co.	1	2	2	1	10,000	*1,395
Pure Oil Company	3	5	8	17	70,885	*12,540
Republic Production Co.	..	3	4	7	22,010	*10,415
Roxana Petroleum Corp.	..	5	5	25	137,580	*21,135
Roxana & The Texas Co.	3	8	11	16	72,415	*12,790
Skelly Oil Company	2	2	6	2	30,000	*3,525
Southern Crude-Dixie Oil Co.	1	6	8	17	37,865	*8,870
Southern & R. A. Westbrook	6	12	17	22	73,750	*16,980
Texon Oil & Land Co.	2	2	3	5	20,475	*7,045
Winkler Oil Prod. Corp.	..	..	1	..	.....	.....
Totals	28	61	95	226	1,015,375	174,705
Totals previous week	43	54	91	216	954,225	160,415

*Production partially pinched.

Little River Operators Firm in Proration Resolve

TULSA. — The lid of proration will be held on Little River if it takes the hand of the law. In effect this was the vote of operators meeting with Umpire Ray Collins July 6, the purpose of the meeting being to iron out a situation that had been slightly muddled by virtue of inequalities seen to exist in the field. This decision was a reiteration of conclusions of the past.

There were some rather fiery conclusions drawn: Staunch followers of conservation will have the territory that originated conservation of oil keep setting the pace of such even though it works hardships on themselves, as it inevitably does in this field of badly cut acreage. There will be a maximum of 125,000 barrels daily produced from the entire Little River field. Operators who had started drilling locations aside from the 79 permitted several weeks ago, have been ordered by the umpire to immediately shut down operations. Saturday morning following the meeting saw considerable drilling in South Little River coming to a stop.

According to conclusions drawn at the meeting these wells will remain shut down until the definite program for the area has been figured out and accepted.

One substantial change was granted by operators at the suggestion of the umpire—that of having a dividing line between Little River field proper and the new South Extension area. This line of demarcation is given as the north half of the south half of the north half of Section 11-7-6. This line, however, is to be definitely fixed by the advisory committee of the Mid-Continent Oil & Gas Association, which is working with the umpire.

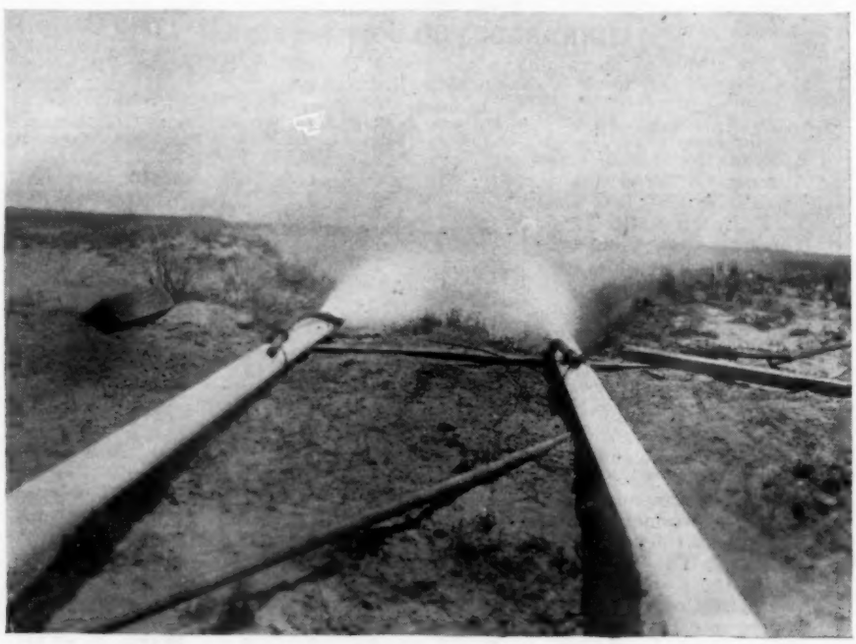
Due to the different arrangement of acreage blocks in Little River field proper this area will be prorated according to leases, and there are to be no units established. The average factor will not be considered in this side of the field.

In the South extension the proration program will follow that of the Yates-Winkler County fields, prorating according to units, figuring 25 per cent on acreage and 75 per cent on the field's potential.

The advisory committee will also fix some definite ratio for the amount of oil to be allowed from the north and south sides. It is figured that this will be about four to one, favoring the south end for the larger amount, since it is the disturbing factor and has the high potential yield.

With the adoption of this plan drilling restrictions will be removed from the field, and individual operators will be left to reason for themselves the advisability of heavy drilling.

Opinions are that even with drilling restrictions removed the field will not be drilled to location capacity. An example of this is given in a statement of Dana H. Kelsey, vice-president and general manager of the Prairie Oil & Gas Company, that the Prairie would drill no locations in South Little River except those forced by neighboring leasers. Another fine example of co-operation is seen in the fact that Carter Oil Company has not even rigged up a number of its permitted locations. R. M. "Dick" Young, president of the Carter, told the meeting that even with drilling restrictions removed the Carter Oil Company would continue to minimizing drilling, and urged the umpire to use his influence in holding down unnecessary locations until better markets for the oil prevailed.



Heavy rock pressure prevailing in Marland Production Company and The California Company's ninety million cubic foot gasser on the Eaves permit, Lea County, New Mexico, coated the two flow lines with frost, as shown in the above picture. These lines carried the gas several hundred feet from the rig.

Atlantic Buys Leases in Winkler County

San Angelo, Texas. — Atlantic Oil Producing Company has purchased a one-half interest and operating control of Gibson-Johnson et al's wildcat oil producer on the Leck-Daugherty 80-acre lease, located in North Winkler County, for a cash consideration of $50,000 and a similar amount payable out of oil produced. H. F. Gibson-F. Kirk Johnson and associates of Abilene, Texas, disposed of their interest, while Jas. M. Kessler of Oklahoma City and David Logan of Okmulgee retained their one-half interest in the well and lease. Atlantic also purchased Gibson-Johnson et al's lease on two other nearby 80-acre tracts, paying $37,500 cash and $20,000 additional from oil, if produced, making a total consideration of $87,500 cash, and $70,000 payable from oil.

The Leck-Daugherty well is located in the north 80 acres of the southwest quarter of Section 3, block 74, P. S. L. Survey, and blew in May 9, 1928, at 3167 feet, making a large volume of gas, oil and water. This well is rated good for more than 2000 barrels of net oil daily, and will be given a pipe line outlet within a few days by Humble Pipe Line Company, but will be restricted to a small daily production in accordance with a voluntary curtailment proposition worked out by nearby lease owners.

San Angelo, Texas. — The Laurel Oil & Gas Company of Tulsa has acquired the balance of the stock of the Owen-Sloan Corporation, Colorado, Texas, for a reported consideration of $370,000 from S. S. Owen and Sam A. Sloan et al, and the latter are to retire temporarily from the oil business. Laurel originally held one-half of the stock of the above corporation, and through this connection held a one-quarter interest in a 160-acre lease on the Roberts Ranch, Howard County, with four wells rated at combined output of 6000 barrels daily. Laurel now owns a half interest and operating control of the lease, while J. S. Cosden and Company owns the remaining one-half through a purchase made recently from H. O. Wooten for $600,000.

Core Drilling With Cable Tools in Appalachian Region

Information secured from coring is of value in study of water flooding in Bradford field; process and equipment described

By R. T. ZOOK
President, the Sloan & Zook Company, Bradford, Pennsylvania

FIVE YEARS ago our company purchased approximately 300 acres of oil territory in the Kane field with the idea of development by the flooding process as carried on in the Bradford field. We owned at that time 900 acres of oil and gas territory, which was delivering gas to our gasoline plant and on which there was a small oil production. The 300 acres just mentioned seemed to us particularly choice territory for increased oil production, as well as assuring our gasoline plant a continuous supply of gas and the purchase was made only after a thorough survey of the field west of the town of Kane. On this property original production had come in as high as 400 barrels per well per day, and from other indications it seemed to us that our investment was a good one. This territory is shown as Reigle 50 Acres, Acme 49 22-100 acres and Acme 207 79-100 acres on the map of the producing property of The Sloan and Zook Company, Figure 1. The Sloan and Zook Sanger was purchased later.

From what we could learn there was, and is, in existence today a "salt water flood" coming in from the west and the line of this flood was pretty definitely defined. While no wells of any appreciable size had been developed from this flood, it was, however, a profitable venture to keep drilling ahead of it and this water traveled so slowly that the period from the initial drilling of a well to its exhaustion covered 10 to 15 years. It seemed to us that if water pressure were applied in the proper manner and with proper well spacings, our production should be very materially increased.

The depths of the wells are from 2200 to 2300 feet and compared to the Bradford field having an average of perhaps 1700 feet, this would give us an additional hydrostatic pressure of 225 to 275 pounds per square inch. The proper well spacing to give the best results, of course, was not known, water flooding not having been attempted on any scale and we accordingly selected, as we thought, an ideal location for our water intake well to give us comparative results at different distances. Figure 2.

By placing this well 175 feet west of No. 40 gave us 250 feet to No. 33, 275 feet to No. 25, 320 feet to No. 34, and 450 feet to No. 26. No. 46 was a new well drilled for the particular purpose of admitting water. We found later that the salt water flood had passed No. 34 and No. 33 and while perhaps not having reached No. 25, was very close to it. This accounts to some extent for the sensitiveness of Nos. 33 and 34 to admitting or shutting off the water going into No. 46.

Number 46 was turned in on water after being packed and tubed in the usual manner with a packer above the Kane sand and a packer below the water strata. So we would know the amount of water this intake well was taking, we set a 250 barrel tank alongside the well and pumped water from a full flowing stream nearby. This ordinarily might not seem good practice but this stream is of such size and the water of such nature that there was no danger of plugging off the sand with silt or mud accmulation. Our results on gauging bore out this assumption.

We thought this well would start to take water at the rate of about 50 to 100 barrels per day, basing our estimate on Bradford sand wells, but imagine our surprise when our gauge showed it was taking at the rate of 720 barrels per day. It was turned in on November 22, 1923, and gauged each day until December 27, 1923, at which time it was taking 150 barrels. The amount of water taken each day is shown on the accompanying graph, Figure 3. We discontinued gauging but admitted water to the sand until March, 1924, when we again made a test run and found this sand taking nearly 200 barrels per day.

It was our idea at that time that we had perhaps struck a soft spot in the sand and as soon as the water filled this soft streak it would affect the harder part and we would get an increased oil production, although it might be necessary for us to handle

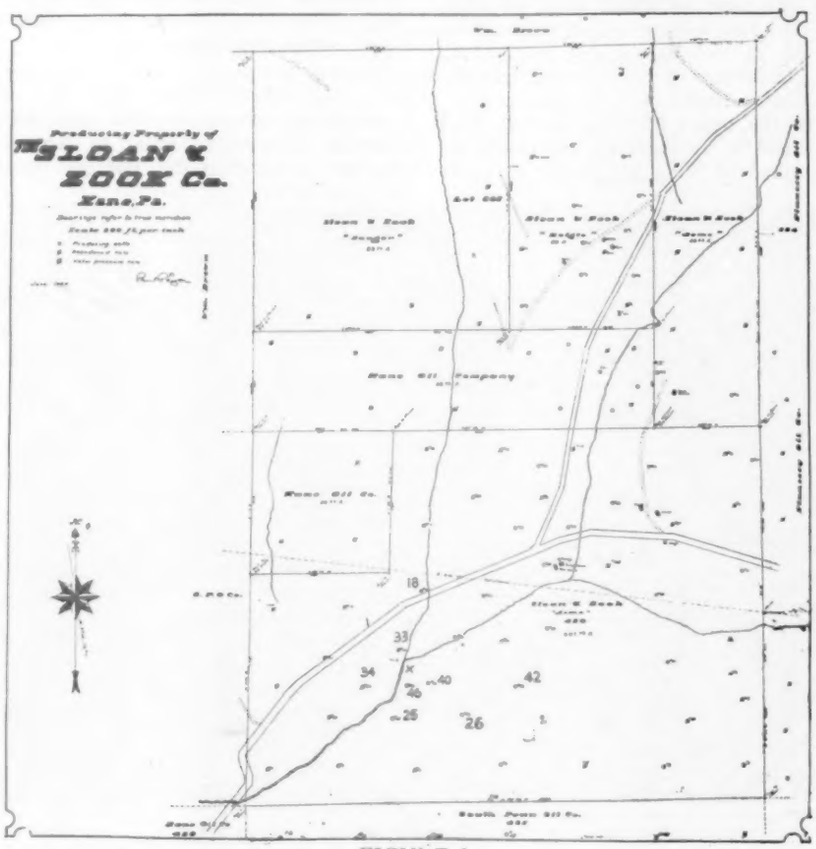


FIGURE 1
Showing location of wells.

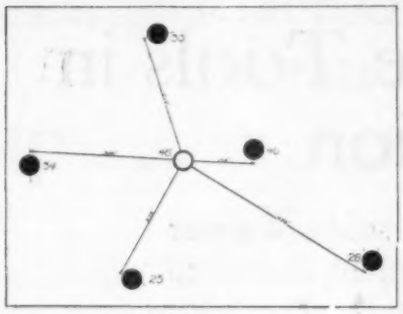


FIGURE 2
Distances to adjacent oil wells from No. 46 water intake.

quite a quantity of water from the oil wells.

We anticipated that well No. 40 would be affected in from three to six months. We had our second surprise in a serious increase on water within nine days after it was turned in No. 46. We advanced all sorts of reasonable and unreasonable theories as to what had or had not happened and thought it would be best to continue the water until we obtained some definite results that would either lead us to success or abandonment of the project. Number 40 previous to December 3, 1923, was making a negligible amount of water. On that day it pumped 14.66 barrels of water and 1.45 barrels of oil and increased on water until on March 8, 1924, it produced 64.30 barrels of water and 1.04 barrels of oil. The accompanying graph, Figure 4, shows the manner in which wells Nos. 40, 25, 33, and 26 were affected and the time at which they were affected. You will note particularly Nos. 25, 33, 34 and 40 did not increase in oil production to any extent but did increase considerably on water.

On the belief that the soft part of the sand would become saturated, we continued to allow the water to enter the sand and during May, 1924, well No. 26 showed a nice pickup and came up to 7½ barrels per day, and we were very much encouraged, until October, as you will see by the accompanying chart of production, water showed in this well and from that time on the downward trend of oil production was very rapid.

It did not seem possible to us that the water could go through the oil sand so rapidly so we took No. 40 and plugged it above the Kane sand, which is the productive sand, tubed and pumped it. We had in mind if any water was going through any of the upper strata it would, of course, show in No. 40. These tests proved that the water was going through the Kane sand, and that the upper strata were not by-passing. They, of course, would not have any water entering if the tubing in No. 46 was tight but we thought perhaps we had a leaky or defective piece of pipe or the lower packing was not holding. Inasmuch as we had spent considerable money in experimenting and the price of the property was rather high, we wanted to do everything possible before deciding the water flood would not work.

Numbers 33, 34 and 18 were turned in on water at various times and with No. 46, made a considerable body of water entering this sand. We gauged No. 18 on its intake and found it was taking 180 barrels per day. Well No. 34 was turned in on March 19, 1924, and took at rate of 295 barrels per day. Compared to the initial intake of 720 barrels on No. 46 indicated widely varying sand conditions at different points on this property.

During November and December, 1925, No. 42 at 775 feet from No. 46 showed an increase on oil and with a result somewhat similar to No. 26. The oil production did not last long

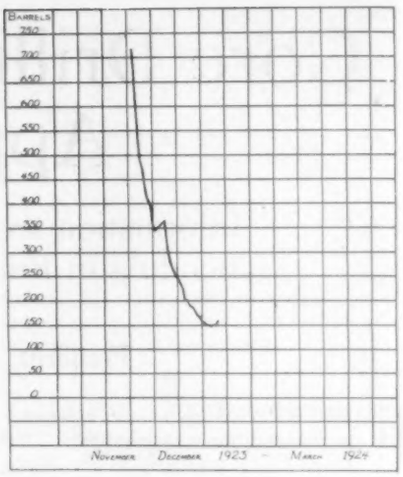


FIGURE 3
Water intake in barrels per day No. 46

nor amount to much and we again thought the water might be coming through some of the upper sands, perhaps from some of the other intake wells, as Nos. 33, 34 and 18. We pumped off No. 42, pulled tubing and ran a hookwall pumping packer without the gas escape with a two-inch pipe 20 feet long on the bottom and the end of this pipe plugged. Above the hookwall packer we perforated the two-inch tubing and with this arrangement it would permit of any liquid going through the perforated tubing down through the packer to the two-inch reservoir below. We ran this packer at various points in the well from below the casing to above the Kane sand and which is below the Bradford sand and at no point did we find any water. We were thoroughly convinced after this test that any water that was being produced from any oil wells in this particular neighborhood was coming through the Kane sand and that if we continued to allow water to enter the Kane sand from the water intake wells, it would eventually ruin the property. We accordingly shut off all water intake wells and very soon thereafter turned our thoughts to gas flooding.

This may appear to be very far from my subject of Core Testing with Cable Tools but I think you will agree that core testing is for some particular purpose and we had a definite purpose in mind when our core test was made.

Experiments With Gas Pressure

Having a Compressor 6x3¼x6 and a tractor, we used these for our gas pumping plant for experimental purposes. We selected well No. 10 on the Reigle 50 acres and particularly on account of the varying distances from other oil wells and also that the salt water flood was pretty close to this well. Figure 5 shows the relative locations. Number 10 was tubed and packed in the proper manner for admitting gas and the pumping outfit described was set up. This was during May, 1926. Gas at the rate of 12,-

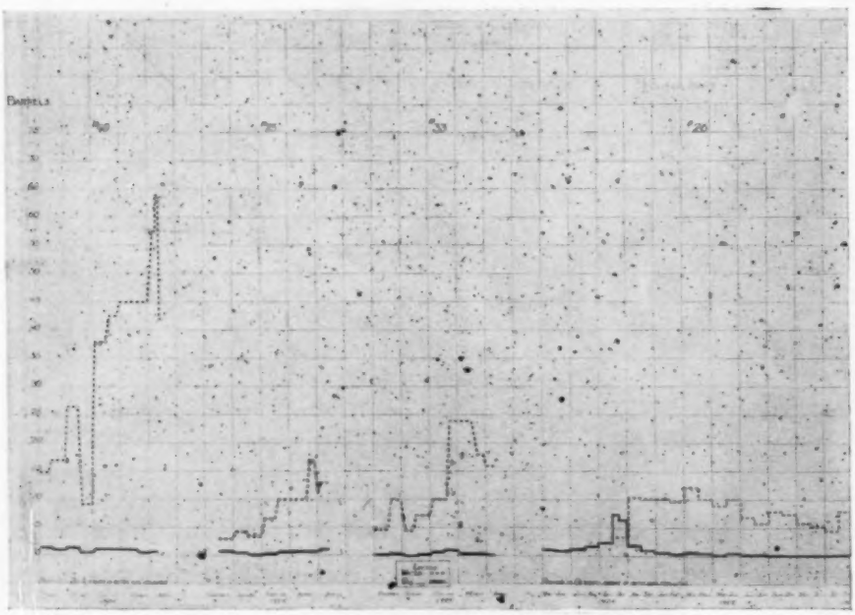


FIGURE 4
Oil and water produced from wells Nos. 40-25-33 and 26.

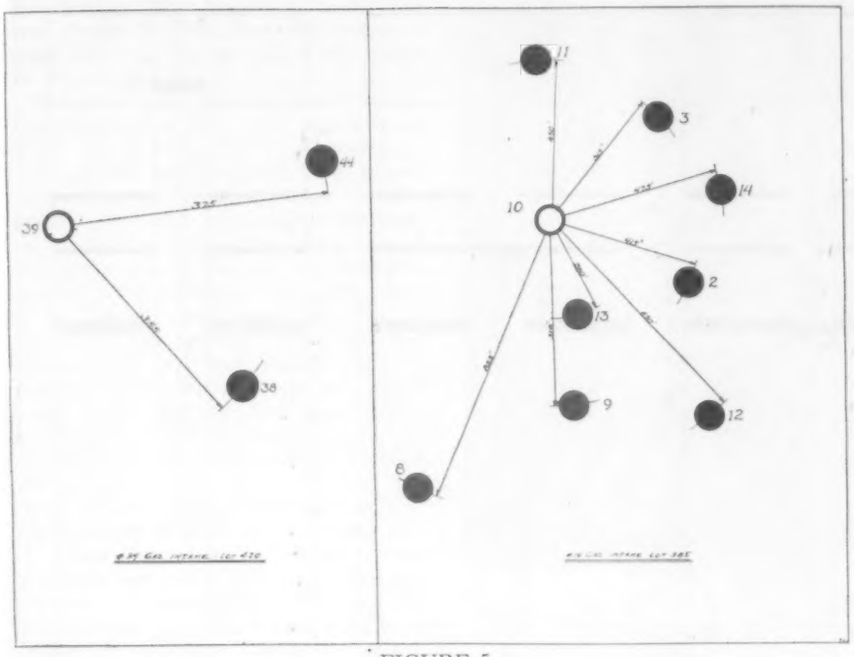


FIGURE 5
Nos. 10 and 39 Gas Intake wells. See Fig. 1 for location on property.

000 cubic feet per 24 hours was pumped into this well for one week, when we increased the volume gradually to 18,000 cubic feet per day and a little later up to 20,000 to 22,000 cubic feet. Within three weeks after this pumping started, No. 2 picked up from 1.50 barrels per day to 3.50 barrels per day and we had small increases on Nos. 3 and 14. Strange to say, No. 13, very close to No. 10 intake, has never shown any increase. Our results, while nothing startling, were sufficient to encourage us and we tubed and packed No. 39 on the Acme and experimented with that well as a gas intake. Our results were the same as with No. 10 Reigle, namely, that within three weeks after starting to pump gas in No. 39, we showed a pickup on Nos. 38 and 44. Our pumping plant was not satisfactory for a permanent installation but our experiments showed encouraging results.

You will note from Figure 5, that the distance from No. 10 to the varying producing wells on the Reigle is from 280 feet to No. 13 to 825 feet to No. 8, but that No. 2 which was most readily affected was 415 feet away. On Lot 420, the distances from No. 39 to Nos. 44 and 38 are 375 feet and 355 feet respectively.

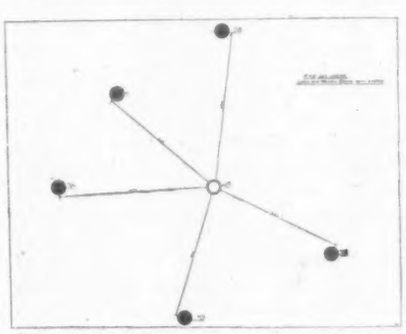


FIGURE 6
No. 46 Gas intake and producing wells adjacent.

Knowing from history that Lot 420 had a richer sand than Lot 385, we selected what we thought was an ideal point to drill a gas intake well. If you will refer to the drawing showing No. 48 gas intake, Figure 6, you will see the distances from No. 48 to the five producing wells vary from 400 feet to 458 feet. Number 52 was not drilled at that time nor is it drilled today but is in our plan for this summer.

Core Test

Realizing that a core test would obtain for us information of extreme value, we had considerable correspondence with diamond drill core machine manufacturers and those doing work of this kind. The best price we could obtain was $6000. Later we received estimates as low as $2000, provided we would promise about 10 core tests in the same vicinity, each owner to pay the moving expenses which would amount to a considerable sum. In some manner, I do not remember just how at this time, we heard of core drilling with cable tools. It seemed to us that if coring of water bearing sands at shallow depths could be accomplished satisfactorily, coring of oil producing sand at greater depths could be accomplished, if the proper effort was expended. An outfit was sent to our Kane property with the understanding that if it did core satisfactorily we would take the tools and pay for them and if not, they would be returned at the manufacturer's expense. In other words, we were to put our time and efforts against their furnishing the tools.

Although it took us about 30 days to core this well our results were more than we anticipated. During that period the weak points of the design were eliminated and during the latter part of this and later tests, the coring was very satisfactory.

Our test on No. 48 showed, according to the drawing "Core of No. 48 Acme," Figure 7, a very hard shell six inches thick was encountered at 2223 feet six inches, and after passing through this to 2230 feet six inches, was exceptionally soft. Our test as to oil or gas content was very crude, it consisting merely of placing a piece of sand on top of a gas stove and if the sand showed any oil bubbling we considered it pay sand and if it did not, it was non-productive or contained gas. Some of the gas strata showed gas very distinctly. Our core indicated there was seven feet of soft sand on the top which was very porous and which did not contain oil. That the next 11 feet was productive oil sand and this sand was much harder than the first seven feet. Our core indicated that from 2241 to 2276 feet, where we quit coring, this sand was non-productive. We felt we had cored a sufficient amount when we had reached 2276 feet and drilled four screws with the regular tools to a depth of 2295 feet. Our results were so far different from what we had anticipated that we hardly knew what to make of it. I do not think there is a driller in existence but would have said we had

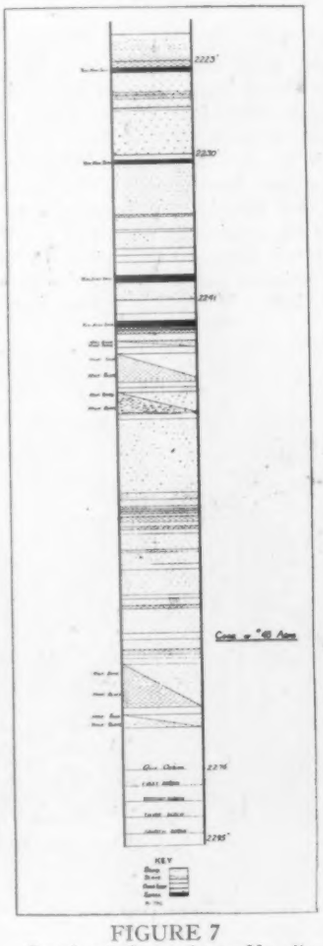


FIGURE 7
Graph of Core Acme No. 48

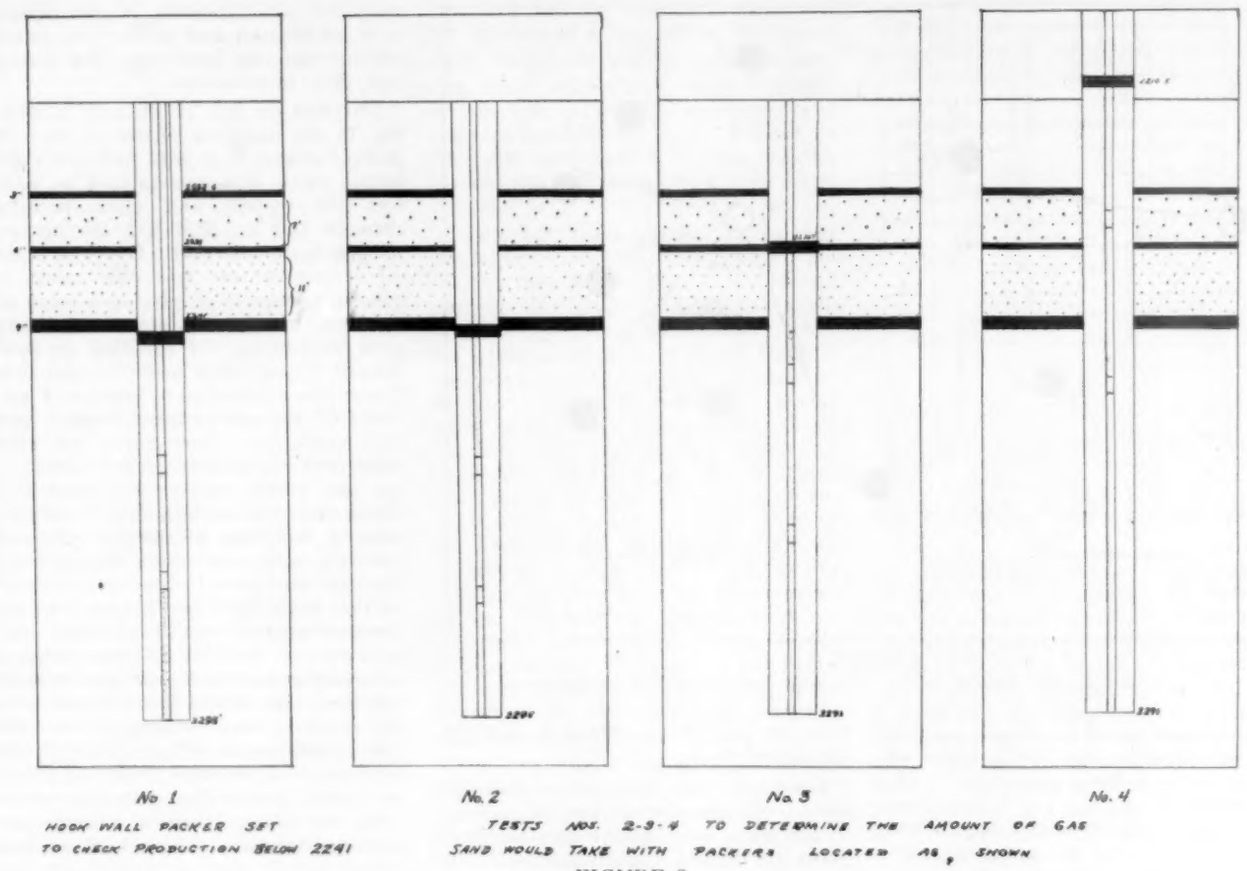

No 1
HOOK WALL PACKER SET
TO CHECK PRODUCTION BELOW 2241
No. 2
No. 3
No. 4
TESTS NOS. 2-3-4 TO DETERMINE THE AMOUNT OF GAS
SAND WOULD TAKE WITH PACKERS LOCATED AS SHOWN

FIGURE 8
Location of Packers during tests.

a good sand from 2223 to 2276 feet. While the drilling showed some shale, the impression is that the Kane sand is from 50 to 80 feet in thickness and that it is all productive. When drilling the last four screws with the cable tools, we struck what appeared to be a possible producing sand and we were very much disappointned that we had not continued our coring to the bottom of the hole. With this impression, we again were at a loss to know if there was a producing sand below which we had cored and put us very much up in the air as to the results.

We now proceeded to conduct various tests to determine definitely as to our theory regarding the productive and non-productive parts of the sand and whether the top of the sand above 2230 feet produced oil and as to whether the sand below 2241 feet produced oil; as to whether any of the sands above the Kane sand would take gas; what amount of gas the soft part of the sand would take; what amount of gas the pay streak would take and if the sand below the pay streak, or rather, below 2240 feet would take any gas. Figure 8 shows the placing of the packers during these tests.

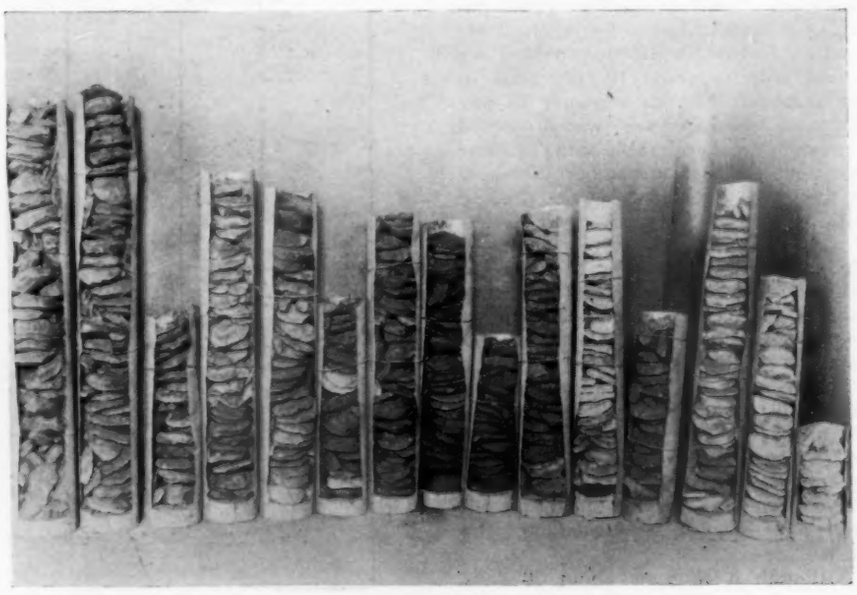


FIGURE 9
Typical Core with Cable Tools.

Our first step was to determine the amount of oil, if any, that was produced below 2241 feet and bear in mind that this is below the sand we estimated was the productive part. A hook-wall pumping packer was set on two-inch tubing at 2241 feet shown as No. 1, Figure 8, and arranged so we could pump through the packer. A one-inch gas escape screwed to the top of the packer was let in with the two-inch tubing and run to a sufficient height to keep any oil from going through the gas escape to the sand below. Our working barrel was set four feet from the bottom of the hole and only on the first day was any oil pumped, which consisted of about 25 gallons and was undoubtedly trapped below the packer when it was set. When we say no production, it means comparatively none, for this sand below 2241 feet made between 3½ and 4½ quarts of fluid per day, of which about one-fourth pint was oil. This oil was different from the oil produced above the 2240-foot point. This test was continued over a period of eight days and from the results obtained, it showed

conclusively that the sand below the pay streak at 2241 feet did not produce oil in paying quantities nor water to do any harm.

We then attempted to determine if the sand below 2241 feet was soft or hard and if it would be necessary to pack off this sand to keep the gas from by-passing or going through a non-productive part. We accordingly pulled the tubing and packer and arranged for gas intake to this part of the sand, setting the packer at 2240 feet seven inches, as shown at No. 2. Pressure was applied gradually and checked at various times until it reached 190 pounds and at which point it did not take any gas. Gradually increasing the pressure it was tested at various times until it reached 290 pounds, which is practically the limit of our compressor and at this point apparently did not take any gas. We then shut in this well at 290 pounds pressure and for a 14-hour period, the pressure dropped from 290 to 220 pounds, but as a gate and stop were leaking slightly, we concluded that this part of the sand below 2240 feet seven inches would not take any gas at 290 pounds pressure and that it would not be necessary for us to pack this part of the sand off for gas flooding.

By gradually raising the packer, setting and testing, we determined by actual test that the bottom of the soft streak was located at 2230 feet seven inches and checked exactly with our core finding. Setting the packer at this point as shown at No. 3, we found the sand would take as follows:

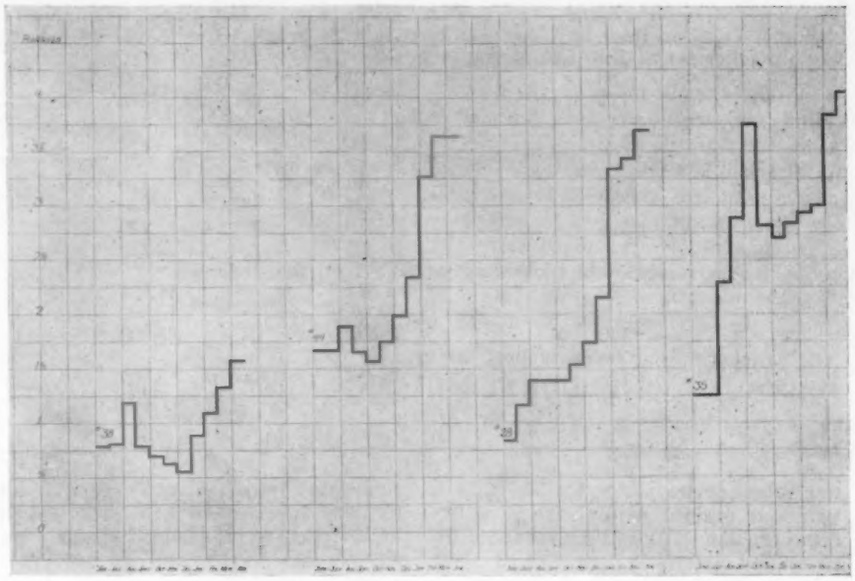


FIGURE 11
Production per day from wells adjoining No. 48 Gas Intake.

Pressure Pounds	Net Gas to Well by Orifice Meter (Cu. ft. per 24 hrs.)
80	2,922
115	10,100
125	13,536
135	14,699

The packer was then set at 2210 feet five inches, which is 13 feet above the top of the Kane sand. We applied pressure of 73 pounds per square inch and after maintaining this pressure on the well until the flow became regular the orifice showed 41,344 cubic feet per 24 hours. This compared with 2922 cubic feet at 80 pounds on the previous test and only approximately 15,000 cubic feet at 135 pounds pressure on previous test, showed conclusively that the top of the sand was soft and it would be advisable to pack this off. Not knowing if it would be possible to pack off satisfactorily between the soft and pay part of the sand, our next effort was to determine what amount of gas, if any, the strata above the Kane sand would take. We had in mind that if it would not be possible to pack off the soft part and if the upper strata would not take gas at 73 pounds pressure, or would at least take a lesser amount of gas at this pressure, it might be possible for us to admit gas through the casinghead and that tubing and packing the intake well would not be necessary. In making this test, the packer was placed at 2210 feet five inches as shown at No. 4 and gas was admitted through the casinghead. We found that up to 105 pounds pressure no gas was taken and at 140 pounds pressure it took 5589 cubic feet, assuring us that we would have an ample margin of safety in the event it would not be possible to pack between the two strata in the producing sand and we desired to put the gas through the casinghead without tubing.

In all tests run for the amount of gas to the well at different pressures,

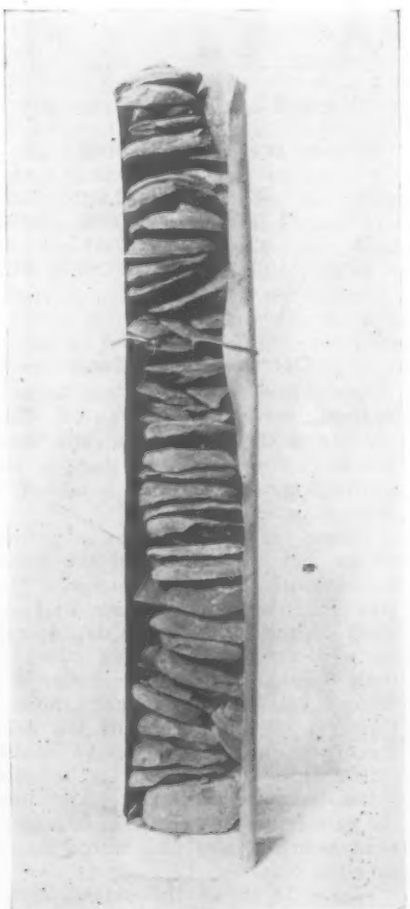


FIGURE 10
A particularly good piece of Bradford Sand.

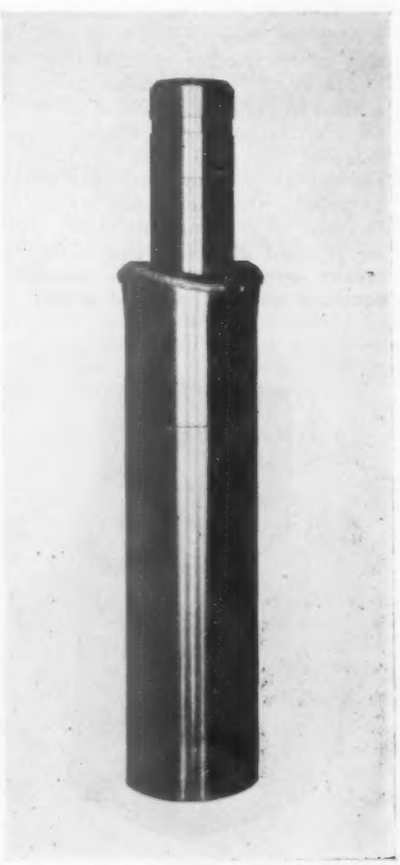


FIGURE 12
Lower portion of Outside Barrel and inside Barrel with cutters attached.

Pressure Pounds	Net Gas to Sand Cu. ft. per 24 hrs.	Gas From Casinghead Cu. ft. per 24 hrs
Packer set at 2230 feet, seven inches—		
80	2,922	432
115	10,100	576
125	13,536	576
135	14,699	792
Packer raised 6 inches; set at 2230 feet, one inch—		
80	5,640	720
95	8,827	720
125	18,439	720
135	19,266	720
Packer raised eight inches; set at 2229 feet, five inches—		
80	5,687	*1,584
125	18,663	*2,592
140	25,382	*7,200
Packer raised seven inches; set at 2228 feet, 10 inches—		
125	38,952	*7,200
135	48,825	7,200

*Note by-passing.

the pressure was held for at least a two-hour period or until the flow became regular. It was then recorded by an orifice meter.

We had now completed all tests we thought necessary and our endeavor was to set our packer at the proper point in the sand to shut off the soft streak so the pressure would be applied to the productive part of the sand. We placed the packer at various points and in addition to measuring the intake gas we measured the gas from the casinghead, which would indicate the gas produced from the sand above the packer and any gas which might by-pass the packer. This measurement was taken with all tests.

From the foregoing figures it can readily be seen that the original setting of the packer at 2230 feet seven inches is the correct point unless one wished to err on the side of safety and set it six inches higher where we found it would take 5000 cubic feet more gas per day at the same pressure without by-passing the packer but we did not feel safe in working this close. When we reached 2229 feet five inches, the results were very definite enough to convince us that we had passed the safe point but when we raised it an additional seven inches to 2228 feet 10 inches, the result showed the gas bypassed considerably and we were definitely in the soft part of the sand. We then set the packer at 2230 feet seven inches and felt our experiments and our core test had been entirely successful and waited results, admitting gas at the rate of about 18,000 cubic feet per 24 hours. This was during May, 1927.

Results

Figure 11 shows results obtained from oil wells adjacent to No. 48 gas intake from May, 1927, to the present date. The results have been highly satisfactory. A comparative schedule is shown below and you will note the oil production has increased from 4.44 barrels per day to 13.22 barrels per day

Comparative Results From Producing Wells

A—Well number.

B—Oil production per day prior to gas flooding; barrels.

C—Oil Production May 1, 1928; barrels.

D—Gas production May 1, 1928; cubic feet.

E—Gas per barrel oil produced.

A	B	C	D	E
38	.78	1.57	2,880	1.834
44	1.31	3.67	10.080	2.746
28	.85	3.70	7.20	1.945
35	1.50	4.28	17.280	4.037
	4.44	13.22		

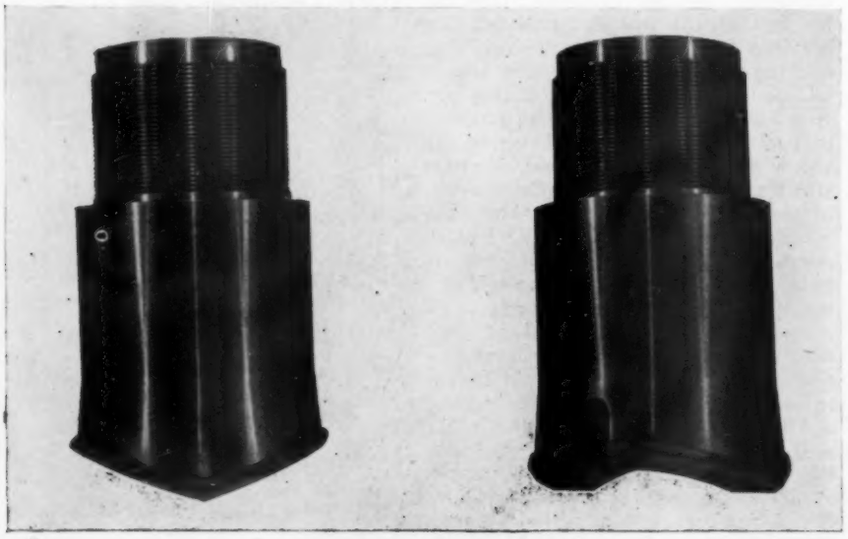


FIGURE 13
Two views of Outside Cutter or bit. Illustrates the application of special steel on the cutting edges.

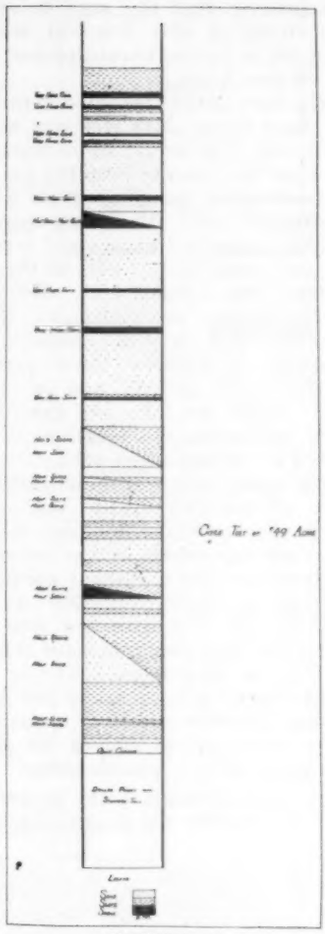


FIGURE 14
Graph of Core Acme No. 49

Operation of the Tools

Any experienced driller can learn to operate the tools in a day's time. They are run in the hole in the same manner as drilling a bit and there is just a little knack in learning how fast to run and in what hole.

Figure 12 shows the lower portion of the outside barrel and the inside barrel with cutters attached. This view illustrates the position of these parts during drilling. The outside cutter with outside barrel and string of tools drops down over the inside barrel and knocking-head (not shown), which are stationary during the drilling operation except when the outside cutter drills three-fourths of an inch below the inside cutter at which time the outside barrel strikes the knocking-head which drives the inside barrel over the core.

Figure 13 shows the outside cutter or bit which is attached to the outside barrel. The bit is kept to size by the application of a special steel applied on the cutting edges with an acetylene

torch and the bit ground to size on any emery wheel. It is usual practice to keep at least two bits on hand and one is repaired while the other is used. The cost of refacing the bit is comparatively small.

To hold the core after it is driven in the core barrel, the diameter of the inside cutter at the bottom or cutting edge is smaller than the inside diameter of the rest of the piece so that the core is slightly smaller than the core barrel. This facilitates core extraction from the barrel and reduces the tendency for core loss. The groove is provided for the purpose of gripping the loaded core tube when extracting the core. This is shown very plainly on Figure 16. Figure 17 is an end view of the outside cutter or bit showing the true circular outline of the cutting edge. Figure 18 shows the outside cutter and the inside cutter together. Note the clearance between them and that the clearance is greater at the point, allowing the outside cutter or bit to cut close to the inside cutter and still leave sufficient clearance at the side to prevent sticking of the inside cutter in the outside cutter and to provide a water course.

Other Core Tests

On this same property we have core tested Acme No. 49 and Acme No. 50, graphs of which are shown on Figures 14 and 15. Number 49, shown on Lot 420, Figure 1, on the southern part was drilled and cored several months ago and we found entirely different conditions existing from those at No. 48. The soft streak at the top of the sand did not exist and we have every reason to believe from our test that the sand at this point in the lease would respond to water flooding very nicely. In fact, this well is now making 4½ barrels per day attributed directly to either the sale water push from the west or the water we admitted during our experimental period. Acme No. 50 shows a soft non-productive sand at the top and also interspersed with soft streaks that would make it highly inadvisable to use as either a water or gas intake.

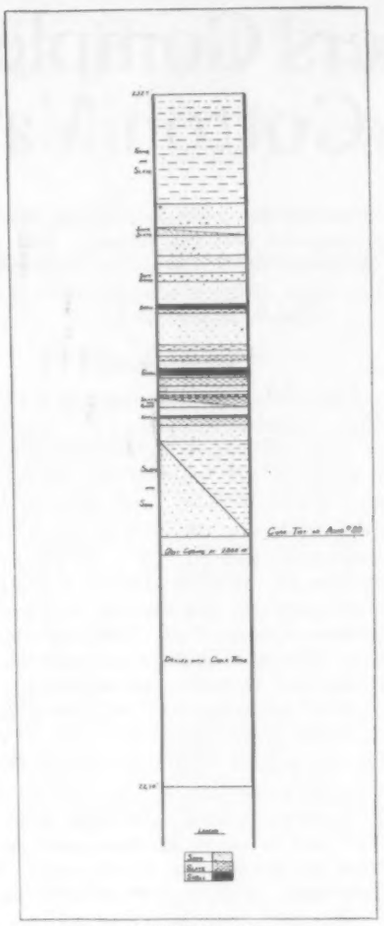


FIGURE 15
Graph of Core No. 50 Acme.

In addition to the three wells cored at Kane we cored one well at Duke Center and one at Rixford. Testing has been done only during the daylight hours and we average from seven to nine feet per day. The cores are very satisfactory and a very small amount is lost. On our Duke Center well we cored 41 feet and the core was 100 per cent. On Acme Nos. 49 and 50 no appreciable amount of core was lost. On No. 48 several feet were lost but this was our first test. The Rixford test showed 100 per cent.

We have found that within a few hundred feet conditions are entirely different and with the information obtained we have taken a property consisting of 300 acres and have changed it from one of very questionable value to one of definite value and we feel the money spent for core testing will be the most remunerative of our oil producing experience.

Trinidad 1927 Output

Washington, D. C.—Trinidad's crude oil industry continued its record of steady progress during 1927, production reaching 5,380,464 barrels in comparison with 4,971,471 barrels in 1926, according to reports to the Department of Commerce.

Drilling operations in Trinidad also continued to advance last year, the total was 238,246 feet drilled in 146 wells, of which 94 are producing. Drilling has increased annually ever since 1917 when it amounted to 52,037 feet drilled in 32 wells. More recent records show a footage of 169,153 for 1925, with 99 wells drilled and 65 producing, and 200,078 feet drilled in 1926, with 127 wells drilled and 77 producing.

Production from wells in Trinidad is not so nearly uniform as in the case of the majority of the fields in the United States. It often happens that dry holes are drilled adjacent to large producing wells. Thus initial production may range from nothing up to 14,000 barrels per day, the latter figure representing the production of the largest well. Wells drilled during 1925 had an average depth of 1708 feet, and in 1926 the average depth was 1575 feet.

Trinidad is now the second largest producer of petroleum within the British Empire, and oil is now the most valuable of its exports, the 1927 shipments being valued at $11,166,532.80.

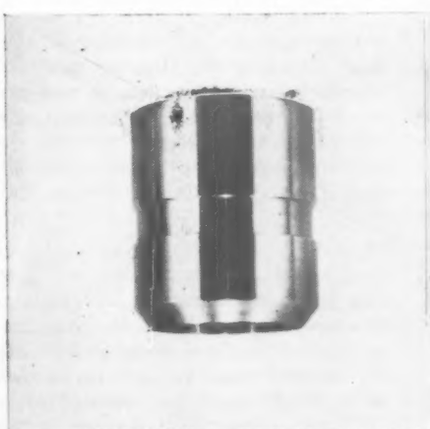


FIGURE 16
Inside Cutter.

FIGURE 17
Outside Cutter or Bit showing true circular outline of the cutting edge.

FIGURE 18
Outside Cutter and Inside Cutter.

Two Producers Completed in Trinity At Cotton Valley

SHREVEPORT, La.—Cotton Valley field staged a comeback last week when the Magnolia Petroleum Company and the Ohio Oil Company each brought in producer from the deep Trinity horizon, the Magnolia completing a large gas well, while Ohio succeeded in adding a second oil well to the one recently completed by it as the discovery oil producer in this field.

The Cotton Valley field has been the scene of a rather active drilling during the past two months, following the bringing in of the Ohio Oil Company's two Trinity producers, but, with the exception of a few very small gas completions, has defied the attempts of all operators to tap the more prolific pay formation found in the Ohio's wells. Completion of the two wells will more than likely add new life to drilling activity in the field, which was becoming almost unimportant as the result of one failure after another throughout the entire area. Magnolia Petroleum Company's Mixon 1, located in Section 22-21-10, in the center of the 40-acre tract adjoining the 20-acre piece upon which the Ohio's Crichton 2 gas well was drilled, on the east, on last Friday and came in with an initial flow of 44,687,000 cubic feet of gas from 4675 feet. This well is only about 1500 feet southeast of the Louisiana Oil Refining Corporation's Lindsay 4, recently tested as a very small gas well at 4694 feet, and later deepened to 4859 feet without better result; and about the same distance northwest of the Palmer Corporation's Mixon 1, which was also tested as a 2,000,000 cubic foot gasser at 4729 feet.

It is practically settled that the Trinity production in the Cotton Valley field is coming from breaks or crevaces in the lime formation and not from a sand as was originally thought. This fact renders it impossible to predict the future of the field as these seepages might occur at almost any point and in any direction. The same sand that was encountered in the Ohio's discovery well, and from which it was thought the oil production was coming, has also been found in several wells drilled since that time, and in all of them it has been found to be absolutely barren of either oil or gas production. Cores of the lime formation for a distance of several hundred feet, both above and below the depth from which the production is coming in the Ohio wells, fails to show any trace of production. So, it is but a natural assumption that the seepages that occur in this formation are permitting the migration of the production from other and perhaps deeper sands.

Champagnolle

Interest in the Champagnolle field, in Union County, seems to have subsided to a great degree following several failures in the heart of the field, together with the very rapid drop in production during the past three weeks. During the past week the average production of the field showed a net decline from the previous week of 3720 barrels, dropping to 15,150 barrels a day. The rapid decline is almost wholly tracable to failure to complete any wells of importance in the field during the past three weeks, as well as the natural decline that must result from the heavy drainage of the sand by the wells now flowing. Drilling activity continues at about the same pace, with from 10 to 20 new locations in the field each week, but trouble in completing wells has been the one serious obstacle that the operators have not been able to overcome. A great deal of trouble is experienced from defective casing seats that permit the encroachment of salt water, usually resulting in the setting of another string of casing before bringing in the well. The field has also been found to be very spotted and erratic, making it necessary that each well be cored carefully before reaching the final depth. Only one well of any importance was brought in last week, that being the Pure Oil Company's Gregory Estate 2, Section 15-17-14, which was completed at 3202 feet, with a flow of 500 barrels of clean oil.

The Root Refining Company's Jerry 1 extension well, in Section 21-17-14, which was tested when it came in flowing at the rate of around 2000 barrels at 2798 feet, and suddenly dropped to around 800 barrels, is still giving trouble, and all efforts to restore it to a steady flow since that time have met with failure. Several times since the original test the well has been brought in with a flow of approximately 1000 barrels of clean oil, only to sand up and go dead. This well extends the producing section of the field approximately two and three-quarter miles, although it is producing from a shallower level than the majority of wells in the center of the most active development in Sections 10, 11, 15 and 16, which wells were completed in the 3200-foot Pure sand. The Root well is southwest from the field.

Another very good chance for an extension of production in the southwest direction is J. M. Gregory 1 of the Skelly Oil Company, in Section 15-17-14. This well was recently tested with a patent drill stem tester at 3036 feet, and showed a production of 25 million feet of gas and a good spray of oil. Casing will be set at this depth, and the well will be finally tested during the week. Approximately one-half mile north of this well, and one mile west of the western limit of present production, the E. C. Johnson Trustee's Gregory 1, in the southeast corner of the northwest quarter of the southwest quarter of Section 10, is preparing to test at 3244 feet, after setting a string of 4½-inch casing in the hole to 3198 feet, following the loss of the seat in the first casing set during a blowout. The well blew out while drilling in operations were in progress, and indications are that it will be brought in as a very good producer, as it flowed approximately 1000 barrels a day while flowing wild. The Lion Oil and Refining Company's Kelly 1, in the southwest corner of the southeast quarter of the southeast quarter of Section 9, about one-half mile still farther west of the Johnson test, has evidently incurred a leak in the casing or a bad cementing job, at 3210 feet. When tested at this point last week it flowed pipe line oil for a few minutes and then went to water. An effort will be made to shut off the water by setting a second string of casing.

Several important tests are now being made in the proven section of the field, including the Gregory 6 of C. E. Murdock et al, in Section 10, now making a drill stem test at 3294 feet; Pure Oil Company's Gregory B-1, in Section 10, arranging to make a drill stem test at 3490 feet; Pure Oil Company's Taylor 1, in the same section, testing at 3248 feet; Root Refining Company's E. F. Gregory 1, Section 10, setting liner for a test at 3232 feet, and the same company's J. M. Gregory 2, in Section 15, is making a drill stem test at 3192 feet. In addition to these, at least 20 wells are coring for the sand or waiting for casing to set, and the present week should witness some live developments in the proven section of the field.

St. Louis Pool Promises Prolific Area

Big wells in Wilcox show possibilities of newer pool in Pottawatomie County being more productive than Seminole; proration probable

By WALLACE DAVIS
Staff Representative

TULSA—St. Louis field in Pottawatomie County, 12 miles southwest of Little River field, came further into the limelight over the past week-end, when strong Wilcox sand production there indicated a greater potential in producing locations than Wilcox producers in the Greater Seminole area.

While formations in this field have proven to be unusually erratic, those locations producing from Wilcox sand are considerably better than was ever expected, Wilcox having formerly been thought to carry much water at this point, and no worthwhile oil pay. Both Magnolia Petroleum Company and T. B. Slick Wilcox wells were deepened Sunday and responded with phenomenal increases. At the same time Magnolia was getting a water well at a direct north offset to its big well. Thus, even with big Wilcox pay in the field, locations generally are not given much.

Magnolia Petroleum Company's Hembree 1, in the northwest of the southeast of Section 19-7-5, gauged 7963 barrels Monday morning after deepening three feet to 4125. This is an increase from 5944 barrels of Saturday's gauge. T. B. Slick's Harper 1, offsetting Magnolia to the east, was reported deepened one foot, making 4127 the bottom, and increased its flow from 7220 barrels to 9390 barrels. Magnolia's Ship 1, offsetting Hembree 1 on the north, topped Wilcox sand late in the week at 4285 feet, and at 4310 feet had a hole full of water. The south side of the big producers, though, has been considered the spot for successful play since Wilcox here was first found productive.

The St. Louis pool, with the above class of potential yield, stands out as an excellent chance for stringent proration, as it has been observed that there is no consistency in prorating 5000 barrel wells in Little River pool and letting 9000-barrel wells flow unrestricted; and continue deepening and agitating at St. Louis. Here is seen a fine chance for the owners to show their colors on proration.

Magnolia Petroleum Company's Fyke 1, which early in July extended the St. Louis pool a mile and one-half east, located in the northwest of the southwest of the southeast of Section 20-7-5, from Wilcox sand at 4266 feet, gauged 4191 barrels Monday. The discoverer owns leases on the bulk of the surrounding acreage and this area will undergo slow development.

A third Wilcox sand well for the Wilcox area of St. Louis looked probable Monday with Sinclair and Gypsy's Powell 1, in the southeast corner of the northwest quarter of Section 19-7-5, a northwest diagonal offset to Magnolia's Hembree 1, having 2500 feet of oil in the hole from Simpson sand at 4333 feet after topping this formation at 4240 feet.

Tulsa—An increase at Little River Tuesday resulted in a 757 barrel increase in Greater Seminole production.

Gypsy Oil Company's Cinda Brown 1, in Section 33-8-6, which opened a new area west of Bowlegs one year ago and has been pinched to 50 barrels since, was opened Monday and flowed 77 barrels in 15 minutes and went dead. It was unusually low with pay around 4600 feet and the area has generally been doubted for big production.

The Texas Company's Smith 1, half-mile extensioner west of Tonkawa field, flowed 119 barrels Monday from 4472-4515 feet.

Tidal Oil Company's Cole 3, in Section 18-29-1e, which extended the Vernon pool of Kay County one mile west two weeks ago, flowed 275 barrels Tuesday, under 260 pounds back pressure. Operators were rigging up to drill deeper Tuesday. The oil is from Wilcox sand at 3324-50 feet.

Gypsy Oil Company added further strength to the western side of St. Louis pool late last week when its Le Clair 1, in the northwest of the southwest of the southeast of Section 23-7-4, flowed 70 barrels an hour from Simpson at 4141 feet, 42-4 gravity oil. Sinclair and Independent's two producers, a half mile to the northeast of this location, were holding up as good wells after completion two weeks before.

Production in Seminole's five fields reached a new low level Sunday with 240,610 barrels from 1093 wells, but increased to 243,872 barrels at Monday's gauge. Production by fields is compared for July 8 and 9 as follows:

Field	July 8	July 9	Wells
Little River	39,558	40,885	134
Bowlegs	57,494	58,595	318
Earlsboro	80,808	80,511	274
Seminole City	50,456	51,850	300
Searight	12,294	12,031	67
Maud (8-5)	....	....	2
Totals	240,610	243,872	1,095

Possibilities for new fields east of the Mid-Continent's discovery in Section 5-7-7, continue to look weak. The eastern side of Greater Seminole apparently offers no big Wilcox pay, but rather salt and sulphur water.

Sands Petroleum Company and McCulloch Oil Company's Harrison 1, in the southwest of the southeast of Section 4-7-7, gauged 470 barrels of oil and 257 barrels of salt water bearing a sulphur odor Monday from Wilcox topped at 4311 and drilled to 4323 feet. Preparations were made late last week to plug back off bottom to 4320 feet in an effort to shut off water, but the entire sand is believed flooded with water. This location loomed for two weeks as a probable pool opener before water was found.

Another important failure was made in 6-6 region over the past week-end. Gypsy's Grant Davis 1, in the southeast of the northeast of the southeast of Section 10-6-6, had 700 feet of salt and sulphur water in the hole from Wilcox sand. The first water was picked up at 3965 feet. Viola lime here was found at 3817 feet and Simpson sand found at 3861 feet.

Oil West of Bowlegs

To the west of Greater Seminole area better chances for new pay are looming. Twin State Oil Company Monday morning swabbed 25 barrels of oil from Hunton lime topped at 4027 feet and drilled 12 feet. Location here is in the northwest of the northeast of the northwest of Section 8-8-6, at Hays 1, a semi-wildcat. The hole was full of oil at noon Monday. This well is approximately one mile east of Gypsy's Doser 1, in the southeast of the northeast of Section 7-8-6, which was a pool opener about a year ago, flowing 125 barrels an hour from Wilcox at 4455-56 feet. It was pinched to 50 barrels and died. The pump was installed to pump the allotted 50 barrels, but agitation brought back the flow, and now the well is flowing its 50 barrels under back pressure. Gypsy's Mission 1, another wildcat producer west of Bowlegs, is located in the southwest corner of Section 5-8-6. It found pay in the Wilcox at 4327-40 feet and flowed 3210 barrels initial late in 1927. It also is pinched in to conform to conservation.

Another extension of major class was offered west of Greater Seminole Monday with Indian Territory Illuminating Oil Company's Bessie Coker 1, in the northeast corner of Section 10-8-5, having 1000 feet of oil in the hole from Hunton lime at 3965-80 feet. This location is one mile

north and a half mile west of Barnsdall's pool opener in the northeast of the northeast of the northwest of Section 14-8-5, which has been prorated to 50 barrels daily for the past six months. Apparently this is one major field, which is shut off to the east by the failure of The Texas Company in Section 12-8-5. This potential field opened by Barnsdall has been termed the Maud field, and considered a part of Greater Seminole, though it has never been considered directly connected with other production spots on the east. It is approximately eight miles north of the original pool, which recently has been extended south by heavy Wilcox pay and some major Hunton and Simpson pay into the former Hunton lime area of St. Louis field.

Economical Drilling on Wildcat In Oklahoma

MOST any independent producer and a handsome percentage of major operating concerns are willing to listen to schemes that will cut a slice off of their drilling costs. Nowadays, when the oil barrel doesn't hold so many dollars as it used to, the majority of operators will try out the other fellow's stunts on their own leases if they look like money savers.

A wildcat drilled by Lon Riggs two miles northeast of Claremore, Oklahoma, is a fine example of economical operating, and offers several cost cutting methods that will be new to many wildcatters.

Riggs saved approximately $700 by studying out his water problem and then solving it with a simple stunt .Apparently his nearest fresh water source, without drilling a water well, was a creek a half mile from his location. A water pump and lines sufficient to reach the distance, plus labor, figured the above .amount. The drilling of a water well would also have run to a comparatively high figure, figuring in labor, time and casing and the fact that need for the pump would have resulted. Riggs had already hauled enough water by tank to spud the wildcat. Encountering a water sand rather shallow, he cased it off with his eight-inch surface pipe, ran a half-inch pipe down inside the surface casing to this sand, and produced his boiler water with a steam jet. The cost is negligible and the supply is abundant. The small steam jet is run off the main steam line, and is regulated by a valve on the jet line as water is needed.

There are other assets to this system of getting boiler water. The danger of frozen lines is eliminated because the water is near a boiling temperature after being handled with steam. Furthermore, less fuel is required in making steam inasmuch as the water in his supply tank is already at this high temperature. On the other hand the amount of steam used in producing the water is negligible.

Seven hundred dollars is a mere drop in the bucket with some operators in drilling some wells today, but while the small operators see fit to save it where profitable, the major operator can remember when he would have liked to save it, and can probably remember where sunch savings brought him from the small to the large operating class, discounting luck that cannot be figured in profits even though it has figured highly in the profits probably in the past.

On his Draper 1 wildcat, located in the center of the northeast of Section 10-21-16, Rogers County, near Claremore, Riggs drilled with a Star portable machine. He used a big Reeves road tractor, capable of running 300 pounds steam pressure, for power, and using coal for fuel under the tractor boiler. Coal as fuel proved cheaper than gas even though he has a producing gas well three-quarters of a mile northeast. The cost of laying a gas line from the well to the wildcat figured higher than the coal bill.

The economics in use of the tractor power is seen in moving locations. When his well is completed he disconnects his steam line, backs the tractor up to the rig, hooks on, and drives off to the next location. Two men can change locations in less than an hour.

In shallow drilling, Riggs is using the new end of wire lines that have served deep well drilling companies. This line is of little use in drilling deep wells, and he buys it at small cost. In shallow holes he uses the end of the line that has not been in the deep holes, and it remains for companies drilling deep to secure the new lines. No harm done—this line is practically valueless to the big company and the remuneration from the short lines is subsidy in the buying of a new line, while the shallow driller also gets a bargain.

In his shallow Rogers County exploration work Riggs is using only two men in his crew, the driller and tool dresser, and running only nine hours daily. He has been wildcatting less than a year, working up to it through seven years of field work. The Draper 1 is his third test, and his first two locations, both wildcats, were producers. Bryan 1, in the southwest of the southeast of the northwest of Section 3-21n-16e, Rogers County, made an estimate of 3,000,000 feet of gas, and the Bryan 2, two locations northeast of No. 1, made a 20-barrel well from the Burgess sand at 790-823 feet. This production is six miles west of the nearest former production, which is also shallow Burgess sand production.

South Little River Activity

Considerable development in the South River extension is booming, but a slowing down came late last week when operators drilling locations not permitted by the Corporation Commission were ordered to stop. Also the new development scheduled for this area has failed to materialize to a great extent as compared with the expected rush, due to several major companies holding up permitted locations until they were forced to drill offsets. The Prairie Oil & Gas Company and Carter Oil Company both have permitted locations standing idle, hoping they will not be obligated to drill, and thus keep down to a minimum the big production expected at Little River before the end of August.

Logan County Failure

The deep Wilcox area of northwestern Logan County is substantially weakened through the finding of salt water in Ross B-1, in the southeast corner of Section 11-19-4w. Sand was encountered at 6195 feet. This well is a west offset of Rouse A-1, which got a show of oil at 6098 feet and bailed five barrels. The latter was being cleaned out preparatory to bailing Monday morning, and will probably be deepened if pay is not obtained at this depth. Both wells offer a weakness to the territory, however, in that to the south of Rouse A-1 and to the southeast of Ross B-1 Roxana has a 500-barrel producer in Ross 1, which has been flowing this amount or more for the past three months. Drilling to this depth is the costliest operating in the Mid-Continent, and erratic trend of production is making the Roxana pool of Logan County look less inviting for this reason.

Construction Work Starts On Atlantic Line

Dallas, Texas.—Actual construction work on Atlantic Pipe Line Company's 10-inch trunk line from Midland tank farm, West Texas district, to Atreco, which is Atlantic Refining Company's export terminals on the Gulf Coast, will get underway this week. The first shipments of pipe began arriving at Midland late last week, and contract has been awarded to Edwin Allan Macpherson, Fort Worth pipe line contractor, for the laying of the first unit out of Midland. Surveying and right-of-way parties are now at work in picking the route of the line, which will require more than 500 miles of pipe and at least 10 main line stations, and more contracts will be awarded shortly, while some of the construction may be carried out by Atlantic's organization. R. W. Howe is manager of the Atlantic Pipe Line Company, with headquarters on the eighth floor Magnolia building, Dallas.

PERSONAL MENTION-MEN YOU KNOW

T. R. Weymouth, who assumed his position as president of the Oklahoma Natural Gas Corporation, returned to Tulsa July 2 from a trip in the Eastern States. He succeeded R. C. Sharp, resigned. Oklahoma Natural Gas Corporation, now located at 117 West Fourth Street, will occupy its new 10-story building at Boston Avenue and Seventh Street sometime in August. The first six floors of this new building, one of the finest office structures in the state, will be occupied by the Oklahoma Natural following considerable expansion in the company within the past six months.

W. C. Ribbs, production superintendent in Northern Oklahoma for Carter Oil Company for several years, resigned July 1. He has been connected with the Carter and affiliated companies for the past 20 years.

L. W. Lowe, who has been serving Empire Oil & Refining Company as head of the Panhandle division land office at Amarillo, has recently been transferred to Fort Worth, where he will be head of the land department in Texas. John Maddox has been moved from Bartlesville to succeed Lowe at Amarillo.

John M. Lovejoy, who resigned as vice-president and general manager for Amerada Petroleum Corporation, Tulsa, in May, has recently organized a new company in New York, The Petroleum Bond and Share Corporation, of which he is president. The company has 20,000 shares of preferred and 30,000 shares of common stock. The Harriman Interests, which Lovejoy joined on leaving the Amerada, controls the new concern.

E. R. "Deke' Parsons, formerly chief scout for Marland at Ponca, and who was late last year transferred to the land department, has been again made chief scout succeeding O. A. Ford, who has been moved to the production department. Ford succeeded Parsons when the latter went into the land department.

Dick Miller, scout for Sinclair Oil & Gas Company in Greater Seminole territory, with headquarters at Shawnee, spent several days in Tulsa last week, accompanied by his wife.

B. C. Connell has been placed in charge of a new district office of the Elliott Core Drilling Company located at El Dorado, Arkansas. The new branch was opened on July 5 and is located at 218 South Washington Avenue.

George Coyle, general superintendent of Prairie Pipe Line Company, Tulsa, is reported rapidly convalescing from a recent operation. He has been confined to his bed in the Research Hospital, Kansas City, for the past two months.

Bob Garland, who has credit. for being the opener of the first big pay in Greater Seminole, left Tulsa late last week to motor to Waite Phillips' Philmont Ranch in Colfax County, New Mexico, where he will visit Mr. Phillips for a vacation.

Ernest Marquardt, formerly a well-known geologist and oil official of Casper, Wyoming, will soon leave his Hollywood home for a trip around the world.

Stanley W. Duhig, well known throughout California oil circles through his connection with the Shell Company of California, has left Los Angeles to take up new duties as head of the auditing department in the Shell's head office in San Francisco. In the days of the old California Oilfields, Ltd., at Coalinga, Mr. Duhig was one of the well known members of the staff there and he remained with the Shell Company when the old "Limited" properties were taken over, spending in all 11 years in the Coalinga fields. Following the discovery of the Signal Hill field he was appointed office manager for the Shell there and he remained in charge of the Long Beach office throughout the hectic days of 1922 and 1923, then being promoted to auditor of production in the Los Angeles office. He was later given charge of the sales department accounting work also and for the past few years his activities have covered all of Southern California and Arizona

S. W. DUHIG

J. R. Donaldson, contracting engineer for the Chicago Bridge and Iron Works at Dallas, visited in Tulsa recently.

Litz McGee, oil scout for the Gypsy Oil Company at Ponca City, Oklahoma, has been transferred to the Rocky Mountain Division with headquarters in Denver, Colo.

G. C. Phillips, chief scout for the Marland Production Company in the West Texas district with headquarters at San Angelo, and president of the West Texas Oil Scouts' Association, was presented with a 17-jewel watch by members of the latter organization June 29. Phillips is a very popular leader of the association, and the watch was given by his fellow scouts as a token of appreciation of his efforts.

C. F. McCauley, manager for the Mexican Atlas Petroleum Company and Cia El Agwi, subsidiaries of the Warner Quinlan Company, in Mexico with headquarters at Tampico, is in the States for a vacation, and is spending a portion of it with his former coworker, J. C. McIntyre, who has charge of Texas operations for Warner-Quinlan Company, with headquarters at Dallas.

D. E. Waggoner, drilling superintendent for Marland Production Company in the Chalk field, West Texas district, has been transferred to Jal, New Mexico, to assume charge of drilling operations on the eight wildcat tests being drilled in the southeastern part of the latter state jointly by Marland and The California Company.

F. F. Hill, superintendent of field operations for the Union Oil Company, is spending two weeks in the Pacific northwest.

Charles E. Harwood, vice president of the Pan American Petroleum Corporation, is in Williamstown, Massachusetts, where he will receive the degree Doctor of Laws from Williams College, having graduated from this institution in 1852. He is 97 years old but still active.

Marvin B. Fountain, who has headed Marland Production Company's land department since the resignation of C. F. Martin seven months ago, announced his resignation July 5 after serving the Marland company for 12 years. He plans entering the Pendulum Investment Company to direct the land department work. This concern was organized several months ago by J. K. Cleary, J. C. Alcorn and Seward Sheldon, formerly Marland employes.

When Oklahoma Scouts Made Territory With Horses and Buggies

An Interview With Harry Denton

By WALLACE DAVIS
Staff Representative

OLD Glenn Pool was scouted by horse and buggy, and when this means of transportation was about the only way of getting around during the Cushing boom, seven years later. When a scout or lease broker started out he never knew when he was getting back, or how, and usually tried to stuff enough grub under the buggy seat to last three days. This, with a penciled map scrawled on a piece of wrapping paper, was the average man's luggage in those days.

Harry Denton scouted Glenn Pool in a buggy

The transportation problem really became complicated when some wildcatter found a show which he was unwilling to have receive public mention. The common stunt on such an occasion was to go into the nearby towns and lease up every available horse and buggy, and close the stables with a padlock. That was one way of keeping scouts from getting wise to the "hot dope" by maneuvering around the prospective territory.

The accompanying photograph shows Harry Denton, now with Skelly Oil Company's land department, on a trip through Glenn Pool hills in his private rig. He didn't depend on the public stables.

Many oldtimers of Oklahoma can remember the Glenn Pool discovery well completed in November, 1905. It was drilled by Bob Galbreath and Frank Chessley, and plenty of trouble was had with the hole. Frank Chessley walked from the well location in Section 10-17-12, near the Tulsa-Creek County line, to Muskogee, about 60 miles, to get encouragement in the form of financial aid to complete the hole only to learn on his arrival that the well had blown in for some exorbitant yield.

Then things turned loose and went wild. Acreage was selling for four dollars, and the broker got 50 cents per acre out of it. It was the Mid-Continent's first real field, and the production peak reached 117,000 barrels in June, 1907.

During the rushing days at Cushing in 1912, when crude buyers were taking only one barrel out of four produced. The remaining 75 per cent. had to go to storage at a cost of 65 cents per barrel and at that rate it didn't take long for the little operators to get out of business, via the "survival of the fittest" method. What buyers took they paid for at 26 cents per barrel.

The original Cushing discovery was the Layton sand pool, Section 17-18-7. Later the Bartlesville sand was opened, and still later, the Tucker sand. The man who owned a small tract wanted the oil out in a hurry and so drilled three wells side by side, one to each of the sands.

The Cushing field in all probability holds the world's record for fires, chief of which have been burning storage tanks. When lightning or carelessness wasn't igniting a tank, strong gas pressure was bringing havoc to wells in the process of completion. Tank farm fires got so common around Cushing and Drumright that the workmen would hardly stop to look at them, much less try to extinguish the flames. The historical fire of August 28, 1914, which came near wiping out the town of Drumright, is remembered as probably the greatest oil fire in the Mid-Continent.

The Eliza Yahola lease was sold one day for $40, the next day for $4000, and a week later for $2,500,000. No other lease trading in Cushing field hardly compares with this skyrocketing price, but it is representative of how prices were popping in the early boom days of the field.

When the famous Smith discovery well came in at Wewoka, an enthusiastic old citizen, who had preached the presence of oil there for years and whose theories had been repeatedly scoffed at, found opportunity for confirming his premonitions when the wildcat started slopping over. He walked down main street carrying a two-gallon pail of oil and a stub of a broom, so the story goes, slinging crude in every direction, and yelling: "The Lord is my shepherd; I shall not want."

Ferry at Cushing moving equipment across Cimarron River in 1914

New Wells Boost Gulf Coast Daily Average

Completion of 19 producers and 10 failures makes last week one of busiest in area for some time; Humble field gets extension

By JACK LOGAN .
Staff Representative

HOUSTON — Boosted considerably by the completion of three producers in the East Hackberry (Kelso Bayou) district, Louisiana, a 2100-barrel well at Big Creek and a 1100-barrel producer at Humble—where large wells now are very scarce—the total of new oil in the Gulf Coast during the past week ran to 8911 barrels, a larger sum than has been recorded in a like period for a long time. This total was from 19 producers, 12 in Coastal Texas and seven in South Louisiana. Ten tests were abandoned, making a total of 29 completions.

Average daily production of the entire Gulf Coast for the week ending July 7 was 134,900 barrels, an increase of 2700 barrels as compared with the previous week's average; with South Louisiana's part amounting to 28,250 barrels, an increase of 850 barrels in the daily average, and that of Coastal Texas 106,650 barrels, increase of 1850 barrels.

In the east Hackberry field three tests, including two producers and one failure, were completed by the Calcasieu Oil Company, Magnolia Petroleum Company and the Union Sulphur Company. Their Watkins 5, on the north side of Kelso Bayou, was completed on July 5 for an initial of 1200 barrels of pipe line oil at 3955 feet, and early this week was making around 1000 barrels of clean oil. Their Valery 1, which is located east of the company's Caldwell lease was completed on July 7 making 500 barrels of oil, together with considerable water; casing was set in it at 3953 feet. The Caldwell 3, which was originally completed as a producer but later had to be worked over, tested a gas sand, the sand which cratered the Caldwell 1 of the same interests, but failed to get production and has been abandoned. The third producer completed in this field during the week was the Yount-Lee Oil Company's State Land 13 in the bed of Kelso Bayou, which came in on July 8 for an initial flow of 1200 barrels of pipe line oil, with the depth of the hole at 3860 feet.

The Yount-Lee Oil Company now has six producing wells in the field, with a daily production of over 5000 barrels. The company has had unusual success in the field, although its holdings are limited to a lease of the bayou from the State of Louisiana, the stream running apparently through the heart of the field. Every test that the company has drilled there has been a producer.

The Calcasieu Oil Company and the two companies associated with it in the field now have five producing wells at East Hackberry, with a combined daily production of about 2000 barrels, making the total daily output of the field around 7000 barrels, the greatest of all the fields of South Louisiana now.

The production of the field is likely to be further increased within a short time, as various tests are about to the level of the pay. Yount-Lee Oil Company's State Land 12 was drilling the latter part of the past week at 3800 feet in gumbo and lime. The Olevia 2 of the Calcasieu Oil Company and associates was drilling Monday of this week at 4200 feet; their Watkins 4 at the same time was preparing to test at 3987 feet; Watkins 6 was drilling at 3700 feet; Watkins 7 was rigging up; and Watkins 8 was a derrick. The Louisiana Land & Exploration Company, drilling in Calcasieu Lake, about one-half mile northeast of the present production at East Hackberry, was coring sand late last week in Calcasieu Lake B-2 at 3545 feet; and Calcasieu Lake A-2 was rigging up. This company drilled into cap rock recently in the immediate vicinity of the tests now drilling.

Other Louisiana Fields

Outside of these wells at East Hackberry, South Louisiana supplied about 1200 barrels of new oil during the past week from three of the older fields. At Lockport two producers were completed by Vacuum-Gulf, Miller 20, which at 3015 feet had an initial production of 800 barrels, 40 per cent. b.s. and water; and Fee B-1, initial 800 barrels, 45 per cent. water and b.s. Rex Petroleum Company's La Prairie Narroni 1, at Edgerly, came in flowing 50 barrels of oil and considerable gas. At Evangeline the Port City Oil Company's S. F. S. 9 was completed as a pumper making 45 barrels of oil and 30 barrels of salt water daily.

Pure Oil Company's Sweet Lake 5 in the Sweet Lake field, Cameron Parish, is still flowing around 3700 barrels of oil a day, and has established a record of producing the greatest amount of oil of any of the four wells of the field, with approximately 140,000 barrels total recovery to its credit. Sweet Lake 3 has produced around 130,000 barrels. Number 5 and No. 4 are the only two wells now producing, No. 4 flowing about 80 barrels daily. Pure's Sweet Lake 3 was drilling early this week at 6232 feet in sand and shale.

In the other new fields of South Louisiana production did not vary much from the average of the previous week. Bayou Boullion's daily average from its one producer was around 700 barrels; that of Sulphur dome from its seven wells was approximately 5000 barrels; and of Sorrento from its three wells, which are partially pinched, around 2000 barrels.

The recently completed well of the Humble field is Moody & West's Moss 1, in the south part of the field, about 800 feet southeast of the nearest production. It was completed at 3300 feet for an initial flow of 1100 barrels of 24.5 gravity oil. Early this week, however, production had declined sharply; it was making 120 barrels of oil together with 25 per cent. water. The well is located south of The Texas Company's Stephenson lease.

Independent Oil & Gas Personnel Changes

Tulsa. — Several important changes have been made recently in the personnel of Independent Oil & Gas Company, chief of which was the coming of O. L. Cordell, as vice president in charge of the marketing division of the company. He was before joining the Independent, head of the marketing branch of Phillips Petroleum Company of Bartlesville. His connection with the Independent was effective July 1, and the past week has been spent in Kansas City, outlining the work for his division. The marketing end of Independent Oil & Gas Company has recently been enhanced more than double through acquisition of the Manhattan Oil Company of Kansas City.

H. L. McQuiston, who has been head of the Independent's production department in Kansas, has been transferred to Tulsa and put in charge of the entire production department.

George Myers, formerly with Amerada Petroleum Corporation, has joined the Independent force as chief clerk in the production department.

M. L. "Joe" Norris, formerly chief clerk in the production department, has been placed in charge of the company's purchasing department.

Waite Phillips, chairman of the board of directors of Independent Oil & Gas Company, left Tulsa early in July for Philmont Ranch, which he owns, in Colfax County, New Mexico, 40 miles southwest of Raton, on the Colorado-New Mexico border line.

Moody-Seagraves Purchase Makes Big Gas Combine

HOUSTON. — The Moody-Seagraves interests, pioneers in the development of natural gas properties in the Southwest, with headquarters in this city, late last week anannounced the purchase of all of the common stock in the Southwestern group of the E. L. Phillips interests, the purchase price being approximately $21,000,000. The acquisition of these properties makes the Moody-Seagraves organization the largest natural gas concern in the world, with holdings valued at more than $100,000,000. At the same time that the above announcement was made, W. L. Moody III, head of the organization, also made public a statement that within 60 days the Moody-Seagraves interests will launch a pipe line construction program which will involve the expenditure of approximately $25,000,000. Still later, on Tuesday of this week, came the announcement that in line with its program of expansion the company had purchased an office building here for its headquarters—the Niels Esperson building, one of the largest and finest in the South, the total consideration being approximately $5,000,000.

The newly acquired properties of the Moody-Seagraves interests include the Houston Gulf Gas Company, which has gas production in the Saxet and White Point fields near Corpus Christi and in the Refugio field, together with a pipe line leading from those fields to Houston; the Houston Gas & Fuel Company, which distributes in Houston the gas supplied by the Houston Gulf Gas Company; the Southern Gas Company and its subsidiaries, the Southern Gas Utilities and the Western Gas & Fuel Company, operating in the Laredo district and supplying gas to numerous cities, including San Antonio.

In the present organization the Moody-Seagraves lines will serve a vast territory in the Southwest, drawing upon immense natural gas holdings in North Louisiana through the Dixie Gas Company and the Dixie Gas & Utilities concerns, and from almost unlimited supplies in South Texas through the Houston Gulf Gas Company and South Texas Gas Company divisions.

The Houston Gulf Gas Company pipe lines extend to Houston from the Refugio, Markham, White Point, and Saxet fields near Corpus Christi, and can tie into the Cole, Carolina-Texas Adams, Jennings and other fields near Laredo by making a 40-mile extension to the Southern Gas Company line, which is now serving San Antonio and other cities in that section of Texas. The total daily open flow capacity of these South Texas fields available to the Moody-Seagraves concerns is around five billion cubic feet, it is estimated.

Leading out of North Louisiana is the Dixie Gulf Gas Company pipe line, which connects with the gas fields at Richmond, Monroe, Waskom, Bethany, Pine Island, Caddo, Creenwood, Elm Grove, Sligo, Cotton Valley and Cartersville. This territory affords the company an estimated daily open flow of two billion cubic feet of gas.

Cities Served

Among the cities and towns which these Moody-Seagraves lines serve are the following: Houston, San Antonio, Beaumont, Austin, Marshall, Longview, Tyler, Palestine, Jacksonville, Rusk, Nacogdoches, Henderson, Carthage, Timpson, Orange, Port Arthur, Livingston, Rosenberg, Refugio, Sinton, Taft, Robstown, Hebbronville, Bruni, Mirando City, Oilton, Laredo, New Braunfels, Seguin and many other smaller towns in East and South Texas along the pipe lines of the company.

Gas can be supplied to any of these towns from any of the various fields through this giant hook-up of pipe lines, and so a continuous supply of natural gas at all times is assured.

Proposed Lines

One of the new pipe lines which the company proposes to construct will extend from the Laredo district fields to Monterrey, Mexico, where it will serve breweries, smeltering works and other industries. It will be the first natural gas line in Mexico, it is said. This line will be of 16-inch pipe, according to present plans, and will cost around $5,000,000. Work is scheduled to begin on it within about a month, and it is expected to be completed this fall.

The other proposed line, which will be financed by several interests, including the Moody-Seagraves concern as the second largest owner, will extend from fields of North Louisiana in the Monroe district to St. Louis. It will cost approximately $20,000,000. Work on it is expected to begin within two months, and it is due to be completed early in 1929.

Headquarters of the newly acquired concerns have been moved from New York to Houston, and the E. L. Phillips interests, former owners, have withdrawn from the Southwest.

Odie R. Seagraves is now president of all of the concerns with the exception of the Dixie Gas & Utilities Company, of which W. L. Moody III is president and Mr. Seagraves is vice president.

The growth of the Moody-Seagraves natural gas organization has been remarkable, extending over a period of only five years. In 1923 Mr. Moody and Mr. Seagraves started their natural gas operations with one well in the White Point field near Corpus Christi, and built small pipe lines to Taft and Sinton, nearby towns. The system which they now control comprises over 2000 miles of pipe line.

Messrs. Moody and Seagraves are also interested in oil production. The Moody Corporation, of which Mr. Moody is president, now has around 7000 barrels daily oil production, including about 3000 barrels in the Pierce Junction field. The Moody interests also operate a natural gasoline plant at Cisco.

Rush Pipe Shipments to Beat Rate Advance

Fort Worth, Texas. — Supply companies and builders of oil and gas lines now scheduled for immediate construction in West Texas were taking advantage of the postponement of increased freight rates on steel and cast iron pipe and other commodities from July 8 to July 14. The rail carriers are proposing an increased freight rate that will involve large sums of money on materials now leaving Eastern mills for Texas points, and an organized effort has been waged lately by Southwestern shippers to delay the move. Temporary relief was obtained late last week by obtaining an injunction in Federal District Court at St. Louis to give the plaintiffs another hearing, and the Interstate Commerce Commission, Washington, authorized the postponement of the freight rate increase for one week. In the meantime pipe and other materials are being dispatched as rapidly as possible to make delivery from mills before the increase takes place.

Mid-Continent Royalty Owners Organize

Tulsa. — The Mid-Continent Royalty Owners Association is the outgrowth of an organization meeting held here Monday night by about 150 men. The present conservation movement was highly indorsed by royalty owner members, while a fight against professional title jumpers and jackleg lawyers is announced as one of the association's leading purposes. The body will also oppose an increased gross production tax at the coming session of the Oklahoma legislature.

Willard Foster was elected president and J. R. Simpson, secretary-treasurer. These two with James Blackman and P. N. Wiggins form a permanent executive committee. Dr. W. E. Grisso, Seminole, Frank Reed, Neosho, Missouri; W. G. Johnson, Oklahoma City, and Carl R. Blackman and W. H. James of Tulsa were elected vice presidents.

Long Beach Stages Come-Back After Slump

Eight completions give field average boost to former high figure after three weeks of decline; more activity at Midway

By BRAD MILLS
Staff Representative

LOS ANGELES. — Staging a sensational comeback after a three-weeks' slump, the Long Beach field showed a flash of its old time performance during the past week by equalling the former peak figure of 205,000 barrels. Eight completions with an average initial production of 1911 barrels easily offset the entire field decline, with more than 6000 barrels to spare. Developments during the week completely reversed the situation of a week ago, making a new peak not only possible but probable. The wells completed were very satisfactory from almost every angle, having shown a low percentage of water, a good gas pressure and as much life as those finished several months ago. It now appears possible that the gradual decline was not a true indication of the field's trend but rather a temporary condition which reversed itself with the first cluster of large completions. Important developments may lie ahead, however, and at this stage of the program production may either rise or fall if favorable or unfavorable discoveries are made.

Successful completions of George F. Getty's Nos. 21 and 22 at 7311 and 7300 feet, respectively, was perhaps the outstanding achievement of the week. The water shutoffs in these remarkable wells were made at 6804 and 6965 feet, making them the outstanding producers of the field. Initial production from No. 21 was 1700 barrels, while No. 22 proved the real surprise of the week with a yield of 3400 barrels. The action of these wells means that it is possible to deepen older wells in this part of the field to an almost virgin sand. It also proves that it may be possible to obtain a very large production by including only the bottom part of the deep zone. Former deep completions have included three or four times as much sand but have produced a much smaller quantity of oil. At such a great depth, it is possible that gas from the upper part of the sand has exerted a slight back pressure on the oil from the lower levels; while in some instances it is possible that the final shutoff was above the lowest point of production of wells drilled several years ago, giving the oil from the bottom layers a chance to escape into the partially depleted upper layers.

Deep Production Jumps

Deep sand production jumped to 143,000 barrels, a new high figure, 150 wells accounting for this unusual yield. The completion schedule of one of the larger operating companies shows a total of 28 wells to be finished during the next three weeks, with a new peak of 210,000 barrels. Drilling wells number 190, with new locations practically offsetting completions. There was a decided slump in new locations for a few weeks, but recent favorable developments have changed the plans of many operators. A production of 150 barrels in the shallow zone seems so small that the lure of a possible 3000-barrel well at 6500 feet is difficult to cast aside.

Dabney-Johnston's No. 10 (Gallagher) opened up a new producing area near Thirty-first and Linden Avenues, making it the most westerly well yet completed in the deep zone. This extension is very important and will result in the drilling of additional wells along the west flank of the structure.

Completions of the week were:

Bolsa Chica Oil Corporation, Mutual 5, initial production 2500 barrels, total depth 6511 feet, gravity 30.4, cut 0.1 per cent.

Dabney-Johnston Drilling Corporation, No. 10 (Gallagher), initial production 2600 barrels, total depth 5954 feet, gravity 26.7, cut 6.0 per cent.

George F. Getty, Inc., No. 21, initial production 1700 barrels, total depth 7311 feet, gravity 29.3, cut 1.5 per cent.

George F. Getty, Inc., No. 22, initial production 3400 barrels, total depth 7300 feet, gravity 27.9, cut 0.1 per cent.

Shell Company, Patton-Wilson 6, initial production 1200 barrels, total depth 6590 feet, gravity 26.0, cut 15.0 per cent.

Shell Company, Patton-Wilson 7, initial production 1400 barrels, total depth 6670 feet, gravity 28.2, cut 10.0 per cent.

The Texas Company, Foster 2-4, initial production 1000 barrels (est), total depth 6163 feet, gravity 29.2, cut 1.0 per cent.

The Texas Company, McDavid 3, initial production 1624 barrels, total depth 6600 feet, gravity 30.7, cut 0.6 per cent.

The Italo Petroleum Corporation of America has acquired the entire holdings of the Graham-Loftus Oil Company in the Long Beach field for a consideration of $5,000,000. Several large wells have been completed on the leases, production running several thousand barrels daily.

The geology of the Ventura field and outlying districts suffered a severe jolt with the completion of a 2000-barrel well along the south flank by the M. K. & T. Oil Company. Defying the accepted theories of several geologists, this independent company completed the well at 5740 feet, having cemented a string of 4¾-inch casing at 5270 feet to test more than 400 feet of oil sand and shale. The deep sand in the heart of the main field produces between 5500 and 7500 feet, making the M. K. T. well something of a wonder. If this outpost well is located on the same structure, which has been the general belief in the past, it should not produce above 7000 feet unless a highly faulted condition exists between it and the edge wells only a few hundred feet to the north. There is a possibility that the well is located on a separate anticline lying against and parallel to the major anticline, although this condition is still doubted. Surface indications do not warrant a separate anticline, but regardless of this fact, the well is flowing oil from what is regarded as an intermediate depth when compared with the producing levels in the Ventura field. The oil is showing a cut of only one per cent. although about 600 barrels of free water is coming from the well.

The Petroleum Securities Company continued its successful record in the Ventura field by completing Orton 6 as a 5500-barrel producer from 6865 feet. The oil is 29.4 gravity and shows a cut of only three per sent. This is the largest well ever completed in the southern end of the field and the last of a series drilled on the Orton property.

Rincon

After drilling through a thick body of brown shale and gray sand, The Miley Oil Company has picked up a good oil sand at 5650 feet in Hobson 1, the most important deep test in the Rincon field. Cores taken at 5660 feet showed a continuation of the sand, with excellent prospects for a zone thick enough to test. The will is regarded as the critical test of the area and upon it largely depends the extent of future deep sand developments. There is a chance that the well is located in a fault, but this fact might not prevent it from being a representative test. Miley has shut down Hobson 2, pending the outcome of Hobson 1. The

status of the upper sand remains unchanged, with production from 15 wells hovering around 4000 barrels. Miley's Hobson 3, completed more than two months ago as a 1000-barrel well, is still producing about 500 barrels, making it the most consistent producer in the field. Chanslor-Canfield Midway, pioneer operator in the field, has a fairly good well in Hobson C1, which was reported as a completion last week. Production has settled to 550 barrels from 3640 feet. A string of nine-inch casing was cemented at 3110 feet, giving the well a much thicker producing zone than the average run of completions.

Midway

The Midway field is showing a gradual increase in the number of drilling operations, due to important discoveries below the former producing levels and the desire of the various companies to prove leases recently acquired. The rapid exchange of leases during the past two months presages an active development campaign, while many companies that have held acreage for several years are considering tests below the old shallow sands. The World Petroleum Corporation will drill at least two wells on a strip it holds along the North Midway district, the exact locations to be announced later. Part of the company's holdings lies only a short distance from the Republic Petroleum's lease on Section 8-32-23. The Chanslor-Canfield Midway Oil Company is still working on No. 29, Section 8-32-23, following a series of tests with and without compressors. The well flowed about 600 barrels when first put on production, but showed signs of falling off before compressors were brought into play Production was increased to 1000 barrels with the aid of small compressors. The fluid level and volume are both satisfactory and a still larger production is expected when additional compressors are installed. The company is drilling two additional wells, one on Section 7-32-23, and a second on Section 8-32-23. The Republic Petroleum Corporation's No. 25, Section 8-32-23, is flowing 1050 barrels, having shown only a small decline after three months of steady production. The action of this well places the new zone in a very favorable light and practically proves that production is not coming from a small pocket. Republic is also drilling two additional wells in the immediate area, one on Section 7 and another on Section 8. Richfield, a new entry into the area, is drilling three wells on Section 6-32-23.

The Superior Oil Company has failed to encounter more than minor showings in A-1, Section 9-29-27, supposedly on the northwest flank of the Fruitvale field. The well is drilling below 4100 feet and the principal hope for production lies in the chance that it is considerably lower on structure than Pacific Eastern's producers on Section 21-29-27. The absence of oil showings and the continuation of the hard, gray sand make the outlook rather unfavorable. The well is located about two miles northwest of the Pacific Eastern's completions, and, although nearer the Kern Front field, may be in a gap between two producing areas. Having successfully completed both KCL 2 and 3, Pacific Eastern is deepening the discovery well to determine the depth of the oil sand. The company was very cautious in completing the first well, including only 14 feet of oil sand below the final water shutoff. The well is now drilling at 4010 feet, more than 150 feet of additional hole having failed to disclose a break in the oil sand. This condition is a very important development and probably means that much larger wells will be completed. Numbers 2 and 3 are each producing 180 barrels on the pump and are showing only a very small cut. The three wells completed by the company have been almost exactly the same size, although each has produced from a different thickness of sand. Number 3, with 110 feet of producing sand, has more than three times as much as No. 2 and eight times as much as No. 1.

Seal Beach

The fear that the cost of extensive drilling to the 6100-6600-foot zone in the Seal Beach field will never be offset by a sustained production continues to be the chief barrier to the development of this questionable body of sand. Superor's Kenkel 1, which was completed a month ago with an initial production of 1500 barrels, is still producing 850 barrels, but even this performance in virgin territory is not considered a positive assurance that the average initial production of a dozen more wells would be as satisfactory. The deep sand probably extends under an area which compares favorably with that over the shallower sands, but this theory is often disputed. Marland's Selover 12, which was drilled to 6990 feet, will be drilled deeper if the hole can be cleaned out to bottom. The well produced commercially at 6600 feet, but was chosen to test the possibilities of the field at still greater depths. The production test of the Petroleum Securities' Naples 2 at 6946 feet is awaited with unusual interest, since the 4¾-inch oil string was landed on bottom and cemented through perforations at 6835 feet. It will be the initial test of a sand at this depth in the Seal Beach field. In the main field, Marland has made a test of the water shutoff in Bixby 21 at 4600 feet and will complete the well as soon as the customary body of sand has been cut. The occasional completion of wells in this district by the three major operating companies has kept production within 8000 barrels of the peak established last summer. In sharp contrast, production from the Alamitos Heights on townlot area has dropped from 50,000 barrels to 13,500 barrels during the same time.

The Continental Oil Company has been forced to abandon Kraemer 5, one of the deepest wells yet drilled in the western part of the Richfield area, following a series of tests which failed to accomplish a water shutoff. The well was drilled to 5350 feet, with a 4¾-inch oil string landed on bottom and cemented through perforations at 4935 feet. By setting a series of plugs, it was definitely determined that the water trouble could not be overcome. The discovery of oil sand below 5000 feet offered much promise at first, but a careful analysis of cores from the hole did not show a very compact formation.

Palmer Union Oil Company has completed Stendill 10, Section 30-9-32, as a 200-barrel well from 3400 feet, materially increasing the company's production in the Cat Canyon field. This area produces a very heavy oil which is used extensively for road construction. Palmer Union has located another well on the same section.

Potrero

Performance of the Associated's Cypress 2 in the Potrero field is ordinarily enough to start a drilling campaign of unusual proportions; but for several reasons additional drilling is not being done by other companies. The Associated very carefully leased a large block lying on what was supposed to be the best defined structure. The long and tedious task of completing a well on this tract proved the wisdom of the leasing program. The company spent a huge sum in bonuses and rentals but appears to have obtained exactly the right acreage. The field may take an unexpected turn, but developments to date indicate that the field lies well within the Associated's holdings. The discovery of light oil in this district 18 months ago would have precipitated an orgy of drilling, but the element of doubt that gradually crept in has not been entirely discounted. Associated's Voorhes 1, which established a record up to 3600 feet, is slowly coring ahead at 4010 feet, with no evidence of an oil sand. Both Cypress 1 and 2 picked up the best sand below 4400 feet. The company's Pacific-Southwest 1, which is located 400 feet south of Cypress 2, is standing cemented at 636 feet, the 15½-inch casing having been set at this point.

The Wilshire Oil Company continues its attitude of secrecy, refusing to make public any information concerning Buckbee 1, an important deep test in the Santa Fe Springs field. Oil and gas showings have been reported but not confirmed by the company. The present formation shows streaks of white sand, according to unofficial reports from the well. The depth is estimated at 5925 feet. The test is regarded as very important because of the possibility of a deeper sand in the Santa Fe Springs field, and the fact that the discovery of a new zone certainly would start another drilling campaign.

(Continued on page 54)

ENGINEERING GAS LINE PIPE

In February, 1927, it was decided to produce Gas Line Pipe by the SMITH-Welding Process.

The engineering knowledge for forming the steel and for applying the SMITHWelding process was immediately available. The machinery was not.

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This organized engineering talent is also available to co-operate with the pipe line engineers of our customers on matters that arise in the planning and construction of lines for the transportation of oil and gas.

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Mountain States Field Development Notes

Pondera Work Progressing Despite Conditions

Great Falls, Mont.—Despite the continued rains and resultant bad roads, the work in the new Pondera oil field, 45 miles north of this city, is continuing at a rapid rate. Three new wells are being started, two spudded in and one completed during the week. Fulton Petroleum Corporation's Trevillion 1 had about six million feet of gas at the contact, but only colors of oil on deeper drilling, so that after continuing through the lime to water, the company has plugged back and will shoot with 100 quarts as soon as the cement sets. The sand was tight and very hard and a shot may be effective in breaking through sufficiently to reach the gas area near the Montana-Pacific discovery well, and be a commercial gasser at least.

Continental Development Company's Ritmoure 1 tested but seven barrels and as this is not commercial for this depth of hole, it has been plugged and abandoned. The test has proved the existence of live oil in the area, and without doubt more wells will be drilled there later.

California Petroleum Corporation's Jones 1 was drilled to 2103 feet and then shut down. At 2099 feet there was a showing of water, but neither gas nor oil; the well will probably be deepened to 2500 feet before being definitely given up.

Texas Pacific Coal & Oil Company's Hiershberg 1 is still good for more than 200 barrels per day and the Continental Development Company's Gjullin 1 is producing 100 barrels. The oil is higher in gravity an gasoline content than that from Kevin-Sunburst, and it will command the same posted price, if not more. The extra gasoline content, it is said, will pay all extra transportation charges from Conrad to Sunburst, while the lower sulphur content makes it most desirable.

Texas Pacific Coal & Oil Company has already started laying its pipe line from the Pondera field to Conrad, and the field operations will soon be using electricity for power as the line of the Montana Power Company has reached the field.

Boulder Knoll

Salt Lake City, Utah.—The Boulder Knoll Oil & Gas Company reports a showing estimated from 5,000,000 to 10,000,000 cubic feet of gas in its well on Boulder Knoll structure, Section 17-23-25, in the southeastern part of Utah. The structure is in the eastern part of San Juan County, 20 miles west of Montrose. Gas pressure blew the tools up in the hole and bridged them 150 feet off bottom. After encountering the gas the formation started to cave and the hole is now being cleaned out to lower casing to bottom, preparatory to drilling into the sand. The operating company is financed by local interests. The new well is 30 miles north of Boundary Butte where the Continental Oil Company has a small well. The Midwest, Utah Southern, Utah Oil Refining, Texas Production, Moab Consolidated and Continental Oil Companies all have extensive holdings in the southeastern part of Utah, and this territory is due for a big wildcat play this year.

Wyoming Wildcats

Casper, Wyo. —The California Company has two drilling wildcat wells in Wyoming this summer. Its Union Pacific 1, on Muddy Creek structure, Section 7-17n-116w, is underreaming at 840 feet. Its Bushnell 2 on the South Piney structure, Section 11-29n-115w, is cleaning out at 555 feet. These operations are of particular interest to operators in the Mountain districts because of the considerable excitement manifest this year about structures in Southwestern Wyoming, Southeastern Idaho and Northeastern Utah. In Idaho the company is drilling in sandstone at 230 feet in its well on Meadow Creek structure, Section 33-3n-4le.

Big Gas Well

Great Falls, Mont. — Largest gas well ever to be completed in the Kevin-Sunburst field is that completed a week ago by Sunburst Oil & Refining Company, Section 30-33-1w, which produced 57,250,000 feet from the Ellis formation. Previously the field's record was held by the 19,500,000-cubic foot gasser of the Northern Natural Gas Company.

Crescent Dome

Salt Lake City, Utah. — Joint test of the Big Six Oil Company and the Utah Oil Refining Company on Crescent Dome has been spudded in and drilling is in progress. Surface cavings were cemented off at 100 feet. The well is known as Randall 1 and is located on the northeast of Section 10-22-19, two miles southeast of the old Crescent Eagle Oil Company well, which, over a period of years, has been making oil and gas under heavy pressure from a saturated solution of water and potash. Geologist H. W. C. Prommel states that he believes production may be expected in three horizons: the Dakota at 500 feet, the Salt Wash at 1200 feet, and the Upper La-Plata at 1800 feet.

Salt Creek

Casper, Wyo. — The R. J. Mosher interests have completed a good shale well in Section 33-40-79 in the Salt Creek field which will have a settled production from 25 to 50 barrels per day. The pay sand was encountered in a shale crevice at 2012 feet. This is the second shale well the Mosher interests have completed within the last few months. Holdings are located on the west side of the field.

Iles Dome

Denver, Colo. — After several unfavorable indications, no showings in the Morrison, and water in the Sundance where oil was expected, the joint test of the Kinney-Coastal Oil Company and the Texas Production Company on Iles Dome, Moffat County, Northwestern Colorado, has drilled deeper into the Second Sundance sand and a core shows considerable saturation. Casing will be lowered and cemented and the showing will be tested.

Keyin-Sunburst Output Increases

Great Falls, Mont. — For the first time since last fall the Kevin-Sunburst field has shown an increase in production over a period of 30 days. The daily output for May was 600 barrels more than that of April. Daily production for April was 8700 barrels and that for May was 9300 barrels. It is estimated that the June production will be a gain over that in May.

Casper, Wyo.—The third completion on Spindletop structure, 25 miles southwest of Casper, in Natrona County, was reported last week by Spindletop Syndicate No. 1. The new well found the production 100 feet deeper than the two wells completed previously; it flows continuously when opened up. It is the company's intention to install a small power unit to pump the wells while more are drilled.

North Dakota Test

Casper, Wyo. — The Prairie Oil & Gas Company's wildcat well in North Dakota which is known as Armstrong 1, is drilling below 390 feet. This well is located on Section 2-140-73.

Casper, Wyo. — Illinois Pipe Line Company has resumed running crude petroleum through its pipe line from the Mule Creek field to railhead at Edgemont, South Dakota. The wells in this field have been standing idle for nearly a year. From Edgemont the crude is shipped to Standard refineries in Canada.

Necessity for Uniform Accounting Instructions and Code

By C. Y. COLGAN
Controller, Atlantic Oil Producing Company

THIS, subject, although of interest primarily to the lorger oil or industrial corporation, should be given serious consideration by the smaller company with activities rapidly increasing and spreading over larger areas. It will be of special interest to those companies having branch offices or departments geographically separated, especially where accounting and physical reports are forwarded to a central point or home office to become a part of the general company records. Can you imagine such paper work flowing into a home office prepared without uniformity and with as many differences of interpretation of company policy as there may be branch offices or departments? This very condition exists in many organizations, despite the fact that it is rarely admitted. The burden falls upon the accounting department in the home office to interpret and transpose such data into terms and accounts consistent with the company's code and policy. One can readily appreciate the fact that such transposition by clerks in a home office remote from the scene of operation, can only be accomplished in a semi-accurate manner, and must involve a great burden of costly inter-office correspondence.

To remedy this condition there must be uniformity of both system and code which must begin in application at the points of origin of the paper work. This will involve the training of numerous clerks, warehousemen and other field and office employes, that reports, etc., from each office may be prepared and coded exactly alike in every instance. Numerous methods have been attempted by many companies, with varying measures of success. One tried and approved solution is the adoption of a printed loose leaf accounting code manual and a general routine instruction manual. To attempt to operate a corporate business covering extensive geographical areas without a printed code and set of instructions, is like guiding a ship without a compass. A typewritten or other duplicated form of instruction notice will not give the desired results and has proven unsuccessful. A brief description of the two manuals referred to above follows. Details should be worked up by each individual company, since circumstances, conditions and business policies are different in each instance.

Accounting Manual

This record is used by office and field clerks, warehousemen and anyone responsible for originating and handling any form of paper work in connection with the general accounting structure of the company. It should contain:

(a) A construction code with explanation as to use: for purposes of coding authorizations covering construction of plant so that distribution of costs can be made intelligently and on a uniform basis. This facilitates clearing to the proper plant account subdivisions upon completion of the work.

(b) A complete accounting code.

(c) A section devoted to detail explanation of each account and sub-account in the accounting code.

(d) Other sections may be added as desired covering departmental or geographic divisional codes, etc.

General Routine Instruction Manual

This manual is used by all persons having to do with the company policy and systems. Being a loose leaf book, instructions need only be included in the various copies distributed, pertinent to the duties of the office or department receiving a copy. Same should contain a complete index and full instructions governing accounting system routine, field office procedure, etc. A few of the possible subjects are mentioned as examples, thus:

Budget and authorization system.
Insurance system and procedure.
Company banking policy.
Branch office procedure.
Plant and depreciation system.
Warehouse system.
Payroll system.
Responsibilities of warehousemen, superintendents, foremen, etc.
Traffic department instructions.

The distribution of the manual should be limited to one copy for each office or department for use by the various employes. For instance, a copy should be on file in each district or field office which shall be used as a reference or guide book by the superintendent, district clerk, warehouseman or other employes in the area. In the general office, a copy can be distributed to each department. One designated employe in each instance should be charged with the responsibility of the custody of the book as well as that of making corrections and additions, notices of which he will receive from the comptroller's office. In no event should he assume the attitude that the book belongs to him personally, but must understand that he is merely its custodian for his particular office or department. It should be referred to freely and frequently by company employes but should be considered confidential insofar as those not in the employ of the company are concerned. New employes should be charged with the responsibility of studying that portion of the manual referring to their particular line of work so that they may speedily obtain a knowledge of the company policy and system. All organizations have in their personnel that type of individual with the argumentative spirit and questions or arguments as to routine or procedure are speedily settled by reference to the instruction manual, thus promoting a better feeling between employes and less waste of time through discussions. The employe who is mentally lazy and refuses to read the manual and learn the company policy, it at once picked up by the auditing department through the results of his work and the offender may be corrected as circumstances justify.

The results of such organized effort to unify the policy and system of a company can truly be said to eliminate confusion, wasted office effort, and much inter office correspondence; and to promote in a most notable manner economy, accurate financial and cost accounting results and more congenial working conditions between employes of different departments. It is surprising to observe how a printed rule or instruction will silence the argumentative person. Furthermore, uniform instruction will enable a company to readily transfer employes between field or branch offices without further instruction. Also, employes with initiative can prepare in advance for promotion.

All recommendations for changes or additions to either manual should be mailed to the comptroller who presents same to a committee for review and final recommendation. After approved, the new or amended instruction is sent for proper insertion to all employes who have a manual in their custody. Each manual bears a register number controlled by a company register and mailing list under the direct supervision of the comptroller.

The above recommendation is more than mere theory, being at present in practical operation with a large oil producing company. Furthermore, it is offered as a solution to the present agitation of the American Petroleum Institute for uniform accounting practice and procedure.

Adaption of Magnet Instruments and Methods to Economic Geology

In Two Parts—Part One

By DR. E. PAUTSCH
Institute of Applied Geophysics, Houston, Texas

IT IS a known fact that a natural magnetic field of certain characteristics prevails at the earth's surface and that this field is subject to diurnal and secular variations, local and regional disturbances. While the science of Terrestrial Magnetism defines the earth's field as a function of locality and time, establishes relations between magnetic variations, internal and exernal occurrences effecting the earth, and determines the changes of diurnal variations with geographical positions, applied geophysics interprets the local anomalies and draws from them conclusions as to the geological conditions of the subsurface. The knowledge that there exists a relation between magnetic anomalies and subsurface irregularities is nearly a hundred years old, and was first utilized in the locating of iron deposits by Brooks, 1873, in the United States, and by Thalen, 1876, in Sweden.

The earth's magneitc field, as vector field, is determined by its magnitude (total intensity), the angle between the magnetic and astronomical meridian (declination) and its dip below the horizon (inclination). As the earth's field is very weak, being less than one CGS magnetic unit (one gauss), and all variations and disturbances usually remaining considerably below this unit, a second unit (one gamma) has been introduced, which is one hundred-thousandth part of one gauss.

Due to the nature of the earth's field, magnetic investigations consist of measurements of directions and intensity. The magnetic directions, declination and inclination, are given by the zero position of a magnetic needle moving freely in a horizontal plane (declination compass), and by a needle supported at its center of gravity and free to move vertically in the magnetic meridian (inclinatorium), respectively. The inclination may also be determined by the axis direction of a rotating coil when the induced current, produced by the earth's magnetic's field, diminishes to zero (earth inductor). Measurements of intensity are made statically by determining the moment of the couple which the earth's field causes upon a magnet or, dynamically, by observing the period of oscillation of a magnet. Electrically, the intensity can be ascertained by measuring the induced current of a coil rotatable around particular axes.

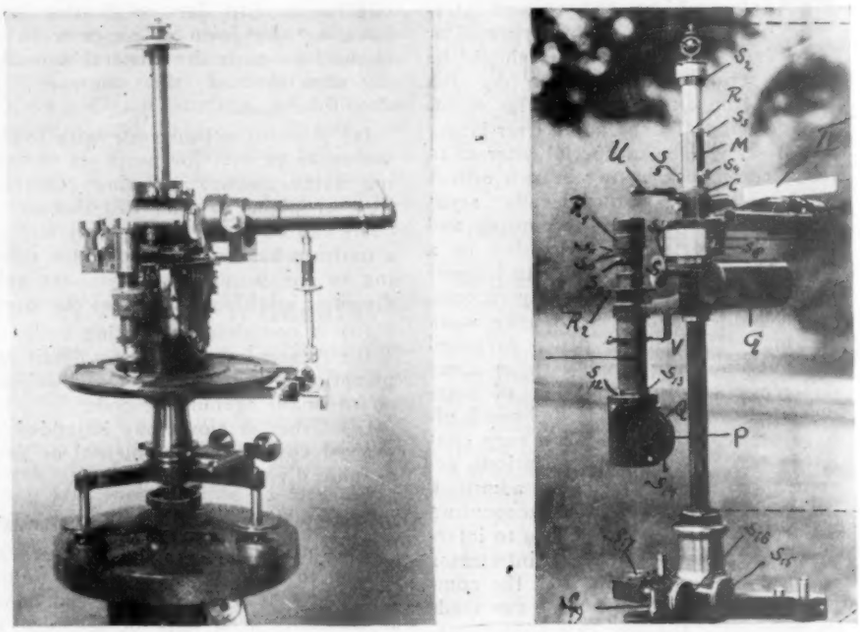


FIGURE 1
Declinometers for absolute and relative measurements

The mounting of magnetic needles is accomplished by means of pivots (compass), unifilar or bifilar suspensions (magnetic theodolites), or knife edges (magnetic balances). The magnetic couple can be equalized by deflecting magnets, elastic forces of suspension threads or, gravimetrically, by counter-weights. The position of the needle in simple instruments is read at its end on a circular scale, or in case of precise instruments, by means of a mirror on the needle, telescope and scale or Gauss's ocular in the telescope.

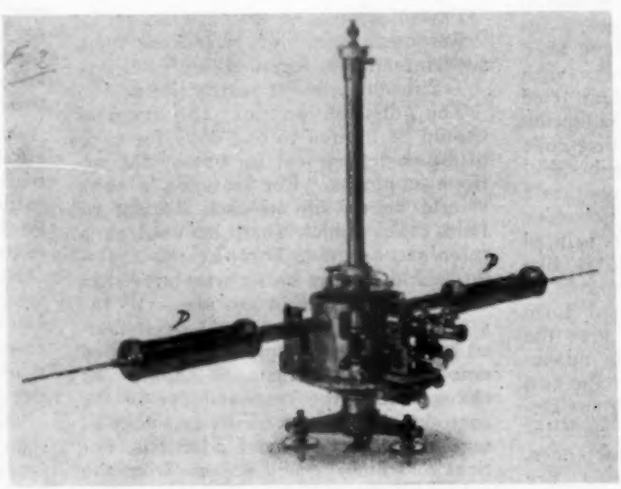
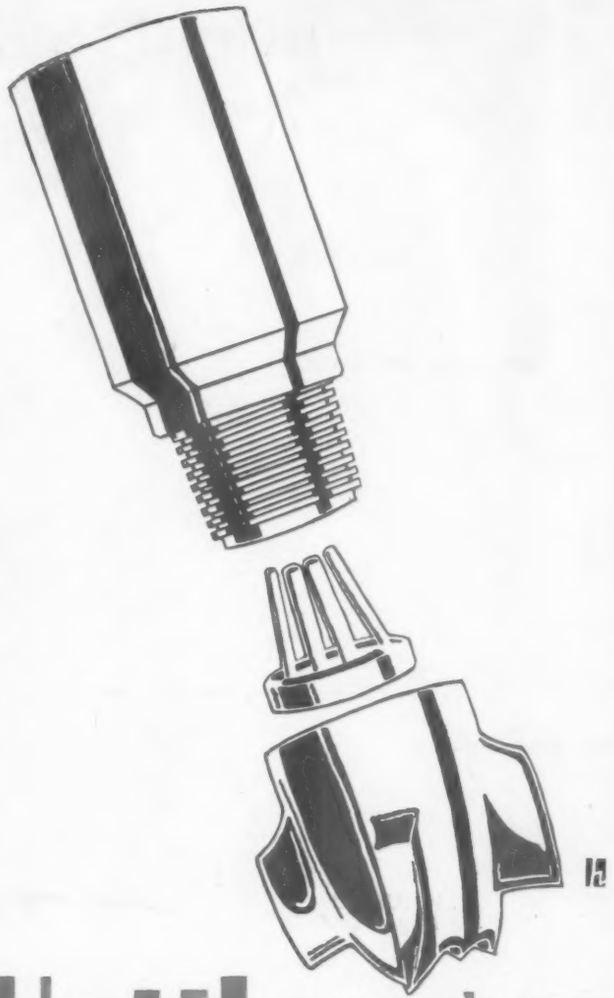


FIGURE 2
Magnetic theodolite for measuring declination and horizontal intensity according to the methods of Gauss and Lamont, by means of deflecting magnets D.

Magnetic measurements can be executed absolutely or relatively. For commercial explorations, relative measurements are made exclusively, by taking the values of an undisturbed locality as standard and making comparative readings at consecutive stations. Such measurements are instrumentally, and also in the matter of calculations, more simple than the absolute; they demand, however, for an accurate registration of minute anomalies the highest sensitivity, constancy of instrument properties and, further, convenient transportability and easy mounting of instruments. Theoretically, measurements of total intensity and inclination would be the most important, but, for practical reasons and to attain a



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greater sensitivity, measurements of horizontal and vertical intensity and declination are preferred.

The declination is measured today with the declinometer (Fig. 1.) or magnetic theodolite (Fig. 2), by determining the direction of a magnetic needle and the sun azimuth by means of a telescope. The horozontal intensity was first measured by Humboldt, who observed the time of swing of a magnetic needle deflected from the meridian and found that, at two stations of different horizontal intensity, the squares of the times of swing are inversely proportional to the horizontal intensities. Later, Gauss and Lamont measured the horizontal intensity absolutely, according to their well-known tangent and sine methods, respectively, by determining the time of swing and deflection angle of a needle produced by deflecting magnets. The oscillation method gives the product m.H and the deflection method the ratio m/H, where m is the magnetic moment of the needle and H the horizontal intensity. The application of current coils for measuring the horizontal intensity was introduced by W. Weber, who observed the deflection of a bifilarly suspended current coil from the magnetic meridian and calculated the horizontal intensity H according to the relation

$$H = \sin a/\text{constant}.i,$$

where a is the deflection and i the current intensity.

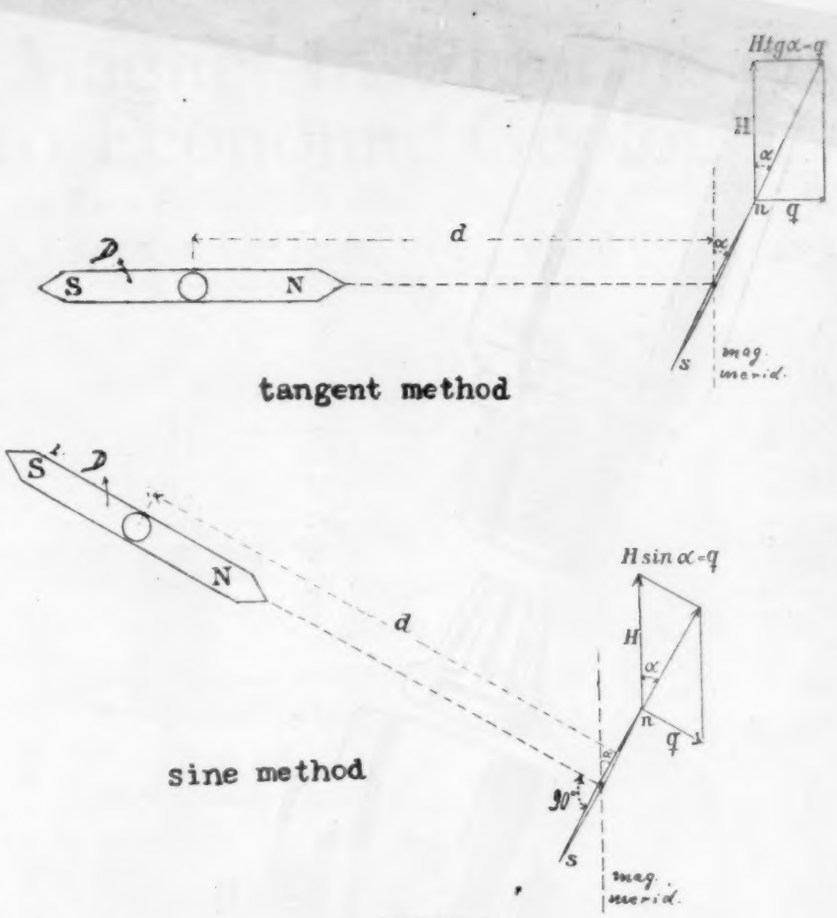


FIGURE 3
Principle of the tangent and sine methods.

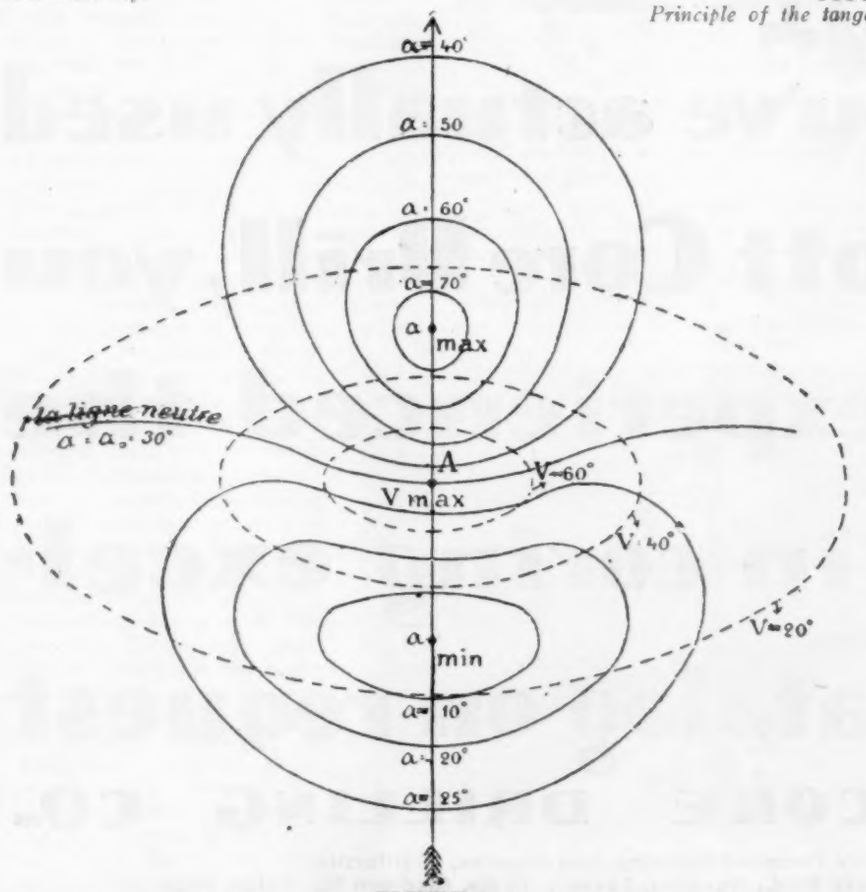


FIGURE 4
Lines of equal horizontal deflection angle (solid curves), and equal dip (dotted curves), over a magnetic body with its center between A and a min.

The measurement of inclination after the zero method of the earth inductor was first proposed by Mascart, then practically developed by Wild, and later modified by Eschenhagen and Schering. To measure the horizontal and vertical intensity by means of the earth inductor, the latter is turned 180° around its vertical and horizontal axis, respectively (method of W. Weber). Both intensities, H and V, are then given by the following equations:

$$w.f\,i.dt = 2.F.H. = c.h.$$

$$w.f\,i'.dt = 2.F.V. = c.v.,$$

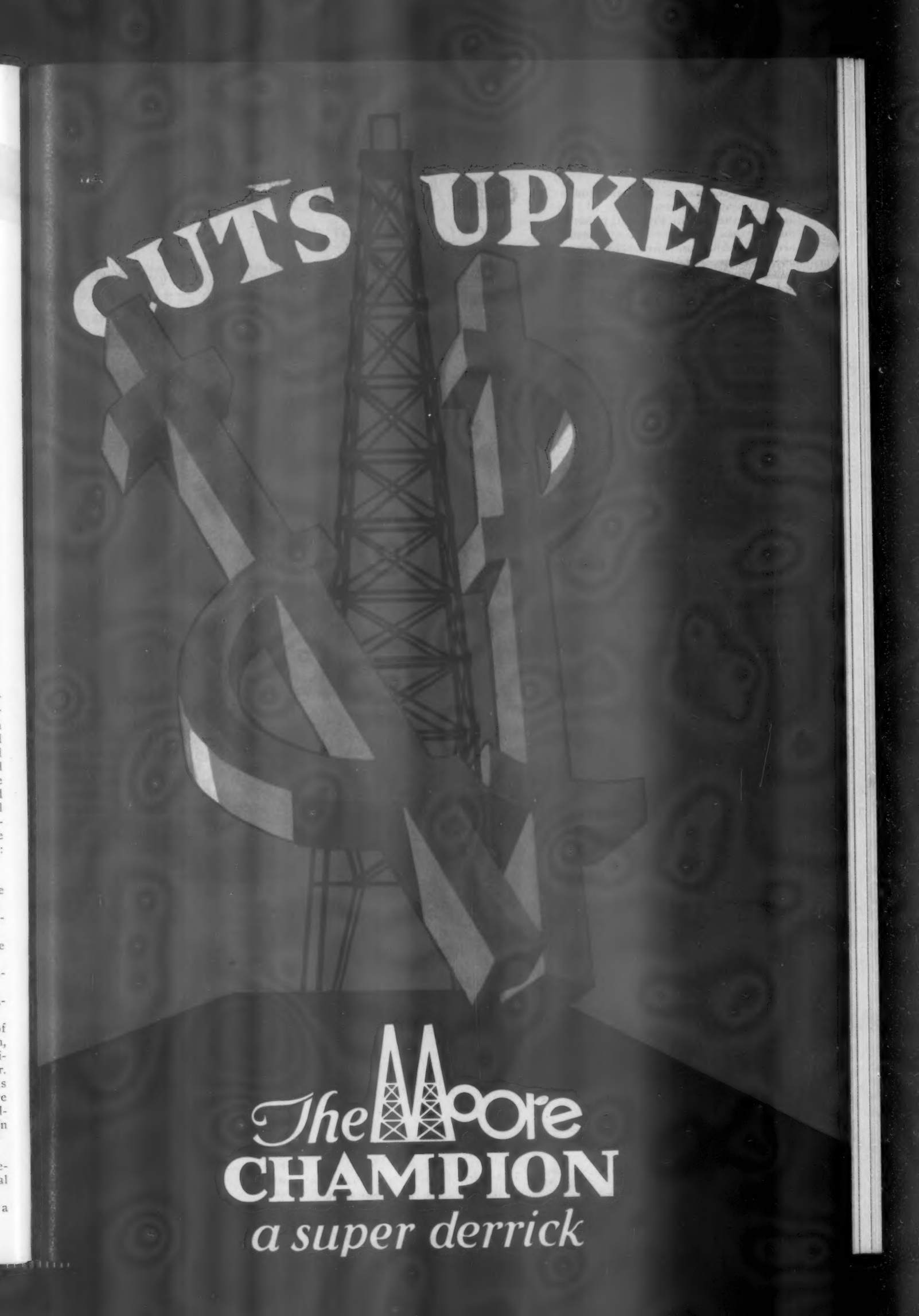
when w is the total resistance of the closed circuit,
F the total winding plane of the inductor,
i and i′ the induced currents in the respective cases,
c the ballistic constant of the galvanometer,
h and v the deflections of the galvanometer.

A differential inductor consisting of two identical coils with equal rotation, one being vertical and the other horizontal, was constructed by L. Weber. The induced current of both coils is compensated by resistances until there is no deflection in the differential galvanometer. The inclination is then given by

$$I = \arctan (w_h/w_v),$$

where w_h and w_v are the respective resistances of the horizontal and vertical coil.

For practical exploration work a


CUTS UPKEEP
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CHAMPION
a super derrick

The Moore CHAMPION
a super derrick

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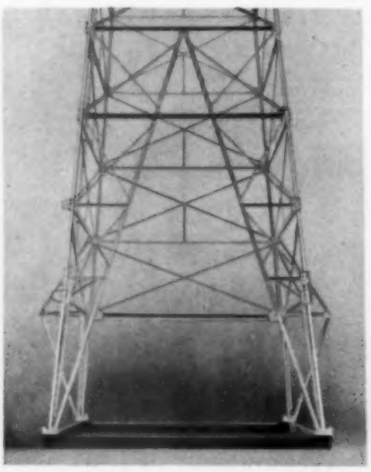
THE *Giant of Upkeep* tries constantly to add burdensome expense to the original cost of a derrick. But the first cost is practically the only cost of a Moore Champion Derrick. Its correct design, simplicity and convenience of construction, and proven strength assure a very low maintenance cost.

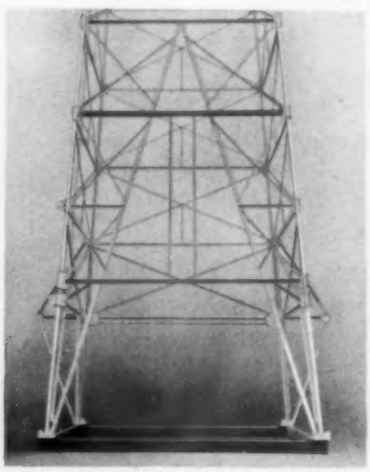
Time and money are saved by Moore interchangeable fronts. Through easily made changes, the same derrick can readily be used for any purpose.

The basic construction is the rotary derrick, Front No. 1. By the addition of a girt at the 11′6″ height, together with two vertical angles to make the walking beam guides, a pumping derrick is made, Front No. 2.

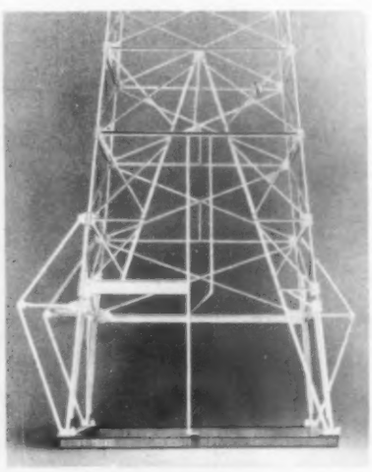
The combination derrick is made by inserting a calf wheel girt with a 24′ post to support its inside end. This provides a 24′ opening in the front of the derrick through which doubles can easily be pulled in from the walk. Material which is too long for that space can be brought in through the A opening between the girts at the 24′ and 31′ heights. Cat line guards at the top of this A prevent damage to the line.



No. 1 Front
Rotary



No. 2 Front
Pumper



No. 3 Front
Combination or Calf Wheel

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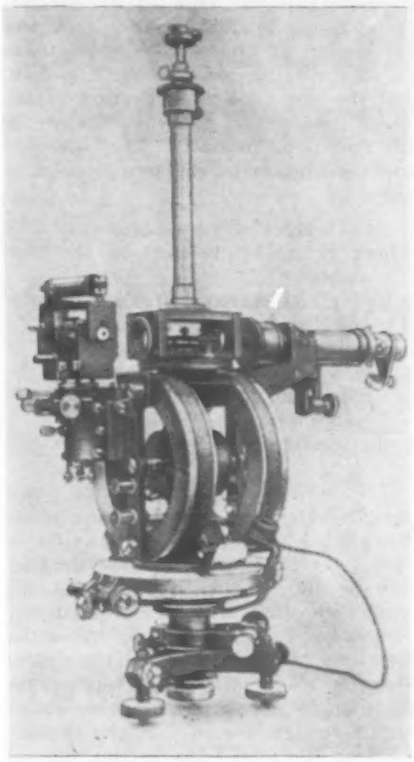
Stocks in all Principal Fields



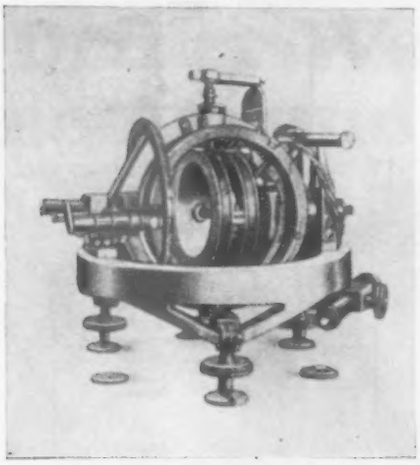


FIGURE 5
Combination instrument from Thalen-Tiberg.

special type of magnetic instrument, the local variometer, has been developed, which measures the magnetic elements only relatively. In general, for rapid surveys, anomalies of only one magnetic element are measured. The horizontal intensity has the advantage that, with it, the calculation of the other elements is less complicated than in case of the vertical. On the other hand, the vertical intensity stands in simple relation to the subterranean disturbances and allows a more exact interpretation as to their location. In cases where horizontal and vertical anomalies shall be determined, it is desirable to use a universal variometer which enables the observer to measure both anomalies with one instrument in minimum time; but instrumental difficulties, at the cost of sensitivity and time, are the main obstacles to their successful application.

The first variometers employed in magnetic prospecting were very simple in construction. One of this type for horizontal anomalies is the magnetometer of Thalen, consisting of a horizontal compass and a fixed side arm, on which a deflecting magnet is mounted. This magnetometer can be used according to the tangent and sine methods, respectively (see Fig. 3). In the tangent method the deflecting magnet D is displaced on the side arm, which always stands perpendicular to the magnetic meridian, until the compass needle at the base station is deflected a certain angle (a_o=30°) from the meridian. The position of the deflecting magnet then remains constant during the entire period of investigation, and observations at consecutive stations consist now of measuring the various deflection angles a. When q is the directing force of the deflecting magnet and H the horizontal intensity we get the relation $q = H.\tan a$. As the directing force depends upon the magnitude of the deflection angle a, the tangent method therefore determines only points of equal deflection angles, i.e., points with equal horizontal anomalies. In the sine method the side arm with the deflecting magnet is turned until it stands perpendicular to the compass needle; the magnet is then removed and the deflection angle a of the needle from its original position read. This procedure is repeated at every station. The relations are now $q = H.\sin a$. The lines between points of equal deflection (solid curves in Fig. 4) represent two groups of closed curves, which encircle the centres of greatest and smallest deflection. The line with the deflection angle a_o is an open curve between both groups.

A simple instrument for measuring vertical anomalies is the inclination balance of Tiberg, which consists of a compass needle swinging in a vertical plane and having its center of gravity slightly below the suspension point. During measurements the needle swings perpendicular to the magnetc meridian. The normal vertical intensity is compensated at the base station by means of counter-weights so that the needle lies horizontal. At stations with anomalies in the vertical intensity, the needle dips from its horizontal position to an angle V, the tangent of which is proportional to the vertical anomaly. The dotted curves in Fig. 4 give points of equal dip and, consequently, points of equal vertical anomalies. The practice later combined the instruments of Thalen and Tiberg in one apparatus, in which the horizontal compass can be replaced by a vertical, so that anomalies of horizontal and vertical intensity may be measured with one instrument (Fig. 5).

A more modern type is the variometer of Kohlrausch with a horizontal compass and a deflecting magnet D mounted below (Fig. 6). At the base station the deflecting magnet is turned around the vertical axis of the instrument a certain angle a (appro. 30°) from the magnetic meridian, and its distance from the compass needle varied along the vertical axis until the needle stands perpendicular to the magnetic meridian, thus indicating that the normal horizontal intensity H_o has been compensated. For subsequent stations the distance between magnet and compass remains constant, and only the magnet is turned to the angle a from the meridian. When any station is of differing horizontal intensity H_1, the needle is deflected an angle e from the perpendicular position, which

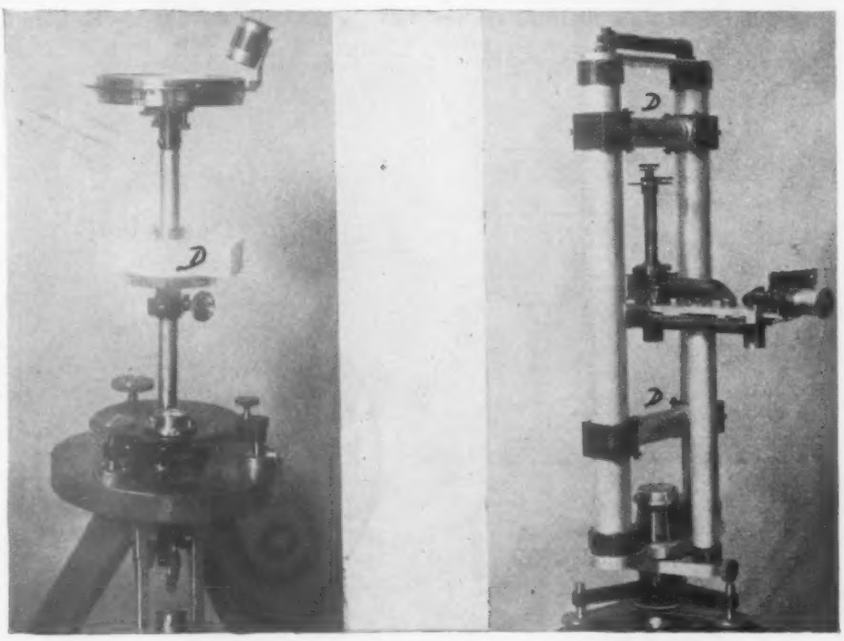


FIGURE 6
To the left, Kohlrausch's horizontal variometer, and to the right, the Two-bar variety.

permits calculation of the horizontal anomaley dH according to the equation

$$dH = H_1 - H_2 = H_o . \tan a . \tan e$$

A modification of this instrument is the Two-Bar variometer which applies two horizontal deflecting magnets D, one beneath and the other symmetrically above the needle (Fig. 6). Both magnets are again turned 30° from the meridian in order to bring the needle perpendicular to the meridian and to compensate the normal horizontal intensity. The horizontal anomalies are then calculated from the respective deflection angles e, as above. The two-bar variometer employs thread suspension, and reading devices with mirror and telescope, for increasing its sensitivity. When the axis of Kohlrausch's instrument is laid horizontal we have the type of the variometer of O. E. Meyer for measuring anomalies in the total intensity. For this purpose the needle is brought into the magnetic meridian and the deflecting magnet turned until the needle stands perpendicular to the inclination. Divergences from this position permit then the calculation of anomalies in the total intensity for various stations.

An instrument for horizontal anomalies has been developed by Luyken (Fig. 7), which contains two compass boxes b with revolving cards in two liquid cases c vertically mounted one above the other in a manner similar to Bidlingmayer's double compass. The compass boxes are pressed against pivots in the cases by buoyancy and overweight of equal magnitude, respectively, and contain in their air-tight interiors a magnet system, the lamellas of which are arranged like Thomson's cards. During the measurements the instrument is turned four times around 90°, the displacement of the cards read by means of an index-pointer, and from the readings the spreading angle of the cards calculated. The smallest irregularity in the earth's field influences the magnitude of the spreading angle, from which the change d of the field direction in the levels of the cards can be determined by

$$d = \tfrac{1}{2} . (a_1 - a_2) . \tan \tfrac{1}{2} a_o ,$$

where a_1 and a_2 are the spreading angles before and after shifting of the compass cards, and a_o the spreading angle in the undisturbed field.

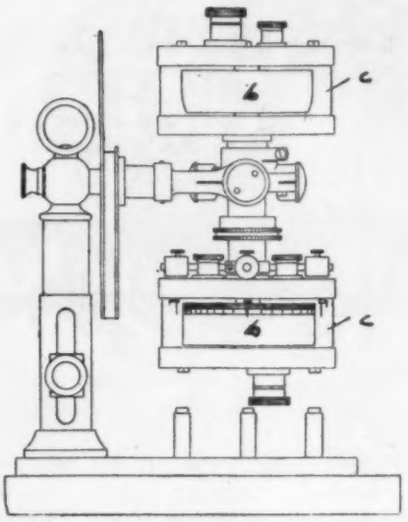


FIGURE 7
Luyken's model of Bidlingmaier's double compass.

In Ruhstrat's horizontal variometer (Fig. 8) two single needles 5 and 6 with double pivoted suspension swing around a vertical axis and are deflected by a horizontal bar-magnet 10, lying between both needles and being slightly diviated from the magnetic meridian. The field of the magnet is directed opposite the earth's field, and the vertical position of the magnet so adjusted that its field in the plane of the lower needle slightly outweights that of the earth's; in the plane of the upper needle the field of the magnet is in a like amount weaker than the earth's field. The needles are deflected to respective sides of the meridian, and the sum of both deflection angles gives then a measure for changes in the horizontal intensity. The condition for equilibrium of the two needles is given by

$$H = k.M/(e^2 - e'^2).\sin d.\tan (a - a'),$$

where H is the moment of the bar-magnet,
e and e′ its distance from the upper and lower needle, respectively,
d its angle from the meridian,
a and a′ the deflection angles of the upper and lower needle respectively from the meridian,
k the instrumental constant.

The principle of mounting two needles vertically one above the other was already applied by Heydweiler in 1898. He brought two equal declination needles in such vertical distance from each other, that they crossed perpendicular, each standing 45° from the magnetic meridian, and calculated the horizontal anomalies from changes in these angles. Compass-variometers of high precision, designed by the Department of Terrestrial Magnetism, for use in detecting local disturbances on land and at sea, apply the same principle. They consist of two independently pivoted magnet systems, one above the other at a distance which may be varied when the instrument is to be used in magnetic fields of different horizontal intensity. In general, this distance is so adjusted that the horizontal angle z between the axes of the two magnets includes an angle consistent with the sensitivity desired. The angle provisionally adopted was 60°. The horizontal intensity H stands in the following relation to the angle z

$$H = [D.(m + m')/e^3] . \cos (z/2) ,$$

when m and m′ are the moments of the two magnets,
e their vertical distance,
D the instrumental constant.

Fig. 9 illustrates a compass-variometer and an inertia-gimbal system for mounting the instrument on shipboard. R are the two containers, each housing a magnet with its mounting and the damping liquid.

A horizontal compass needle for the purpose of measuring vertical anomalies was first used by Lamont, who mounted two vertical iron bars without hysteresis opposite, one above and the other below the needle. By tapping he generated in both bars an induced magnetism in proportion to the earth's vertical intensity and produced deflections of the needle corresponding to the strength of the vertical anomalies. This method, however, can serve only orienting purposes. Instruments of practical importance for vertical anomalies are today the magnetic balances, as they were constructed by

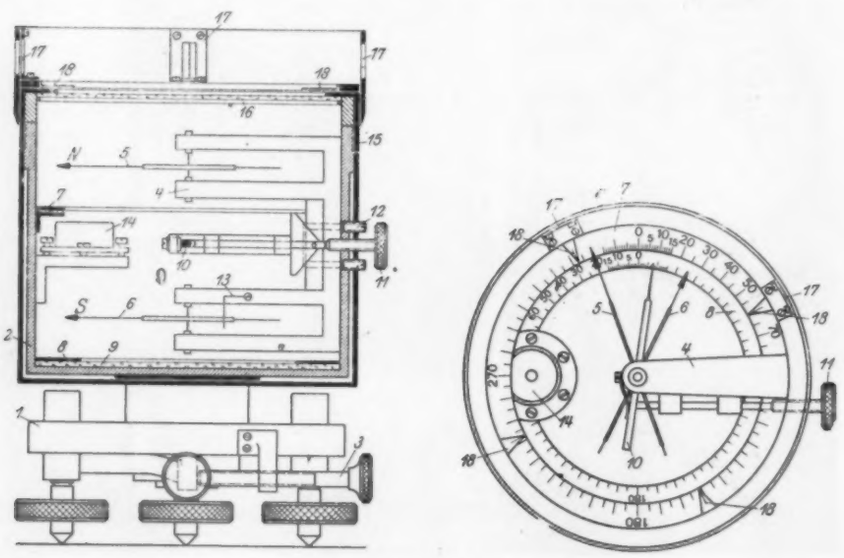


FIGURE 8
Rhustrat's horizontal variometer.

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OR do you provide him with a

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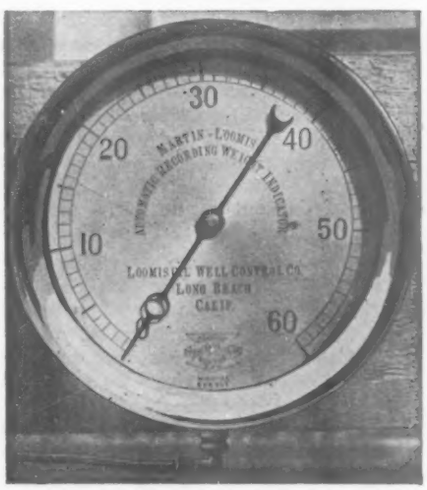
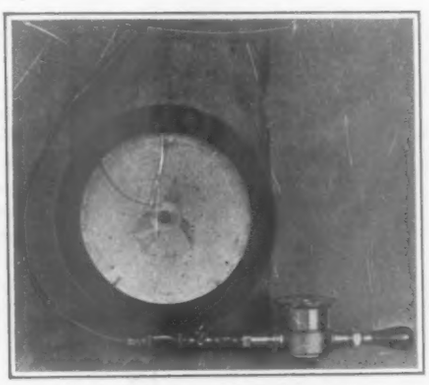
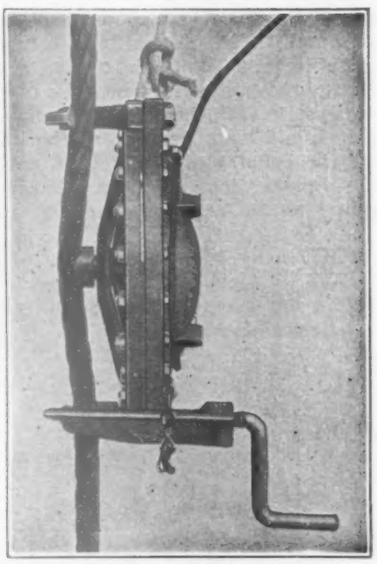


Weight gauge on derrick girt in easy view of driller. This gauge serves as a constant guide while drilling, fishing, or taking core, and eliminates the necessity of depending on the "feel" of the brake to determine the weight on bottom or on the hook.



Recording instrument in belt house which writes a permanent graphic record of all operations at the drilling well throughout each 24-hour day.



Bronze case containing rubber diaphragm attached to deadline.

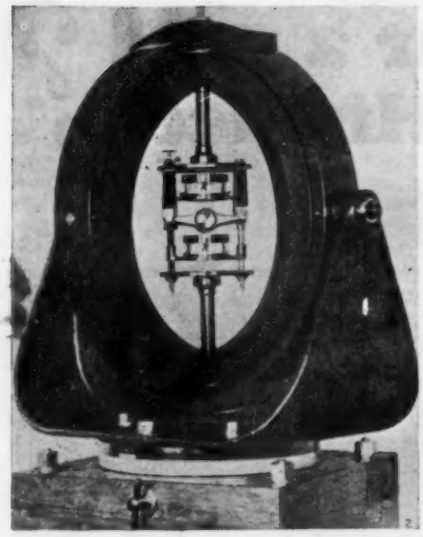


FIGURE 9
Compass variometer and inertia-gimbal system for mounting on ship, designed by the department of terrestial magnetism.

Lloyd, Helmholtz and later modified by Toepfer, Eschenhagen and Schmidt. Lloyd used for his absolute measurements a horizontal magnet, swinging in a plane perpendicular to the magnetc meridian. By magnetizing the magnet in opposite direction and double weighting for the purpose of horizoning the magnet, he calculated the vertical intensity. In similar manner Helmholtz determined the maznetization of bars. The magnet system of the field balances used today has the form of a beam and consists of one or more lamellas, resting upon knife-edges of quartz. In order that only the vertical intensity acts on the beam, the latter is brought perpendicular to the meridian and so balanced by counter-weights or deflecting magnets at the base station until it lies horizontal. The normal vertical intensity is then compensated and vertical anomalies now influence the magnetic system with their greatest couple. In the equilibrium position of the balance the couples of gravity and magnetic vertical intensity are equal according to the equation (see Fig. 10)

$$M.V.\cos i = Q.d.\cos (a-i) ,$$

if M is the magnetic moment of the balance beam,
V the vertical intensity,
i the dip angle of the beam formed with the horizon,
Q the weight of the beam,
d the distance between O and G,
O the point of support of the beam,
G the center of gravity of the beam,
a the angle between d and magnetic axis of the beam.

By forming the differentials of the variables V and i in the above equation we get the relation

$$dV = [Q.d.\sin a/M).(1+\tan^2 i] .di$$

stating, that the vertical anomalies dV are linear proportional to small changes di of the dip angle. The changes di are now read for various stations by means of a mirror, telescope and scale. When di is thus known the anomalies dV may be determined by calculation according to the last equation, as all quantities of this equation are constant. However, it is more convenient to determine experimentially the magnetic force necessary to produce a divergence of an angular or scale unit of the beam. This may be accomplished by means of the known field of a deflecting magnet or current coil. The magnetic force in gammas, which causes such divergence is known as scale value or sensitivity of the instrument and gives, multiplied with the number of scale units read at any station, the value of the vertical anomaly in gammas. The scale value will be smaller and, consequently, the sensitivity higher, the smaller the quantities Q, d, a and the greater M. A vertical screw adjustable on the beam serves to secure the sensitivity desired by altering the height of the center of gravity. Deflecting magnets, mounted under the instrument, are often used to increase the interval of readings.

As the magnetic moment of the beam is influenced by temperature, it is necessary to eliminate such influences by corrections in the readings. This is done with the aid of the temperature coefficient, which gives the correction in gammas for one degree of temperature change. The coefficient is experimently determined by exposing the instrument at one spot gradually to extremes of temperature and ascertaining their effect by continual readings. Generally, the anomaly A of any station may be found by the term

$$A = e(s-s_o) + m(t-t_o) \pm \text{ diurnal variation,}$$

where e is the scale value,
s_o the reading at the base station,
s the reading at any station,
m the temperature coefficient,
t the temperature during the reading,
t_o any base temperature.

(This is the first part of an article by Dr. Pautsch. The second part will appear in an early issue.)

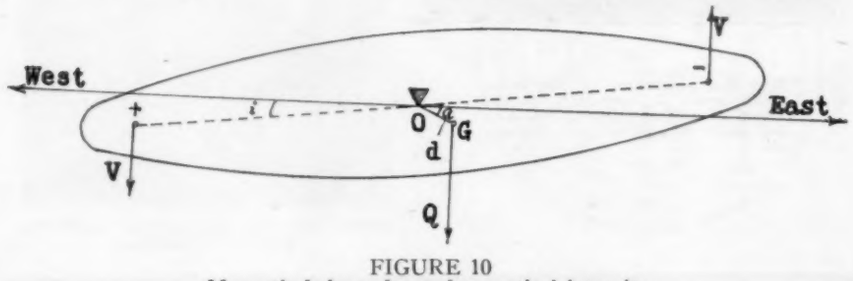


FIGURE 10
Magnetic balance beam for vertical intensity.

Long Beach Stages Comeback After Slump

(Continued from page 44)

McCollom and Taylor's (Prairie) Price 1, Section 13-5-11, has assumed a very doubtful aspect, following failure to encounter important showings to the present depth of 5865 feet. The well is located about three and one-half miles northeast of the Santa Fe Springs field and in a district not extensively drilled in the past. Oil seepages are found near the well but they apparently are of little significance in this particular instance. The present depth of the well and the absence of showings practically eliminate the test from further consideration.

Reports that the San Clemente Oil Company has completed Peck 1, near Hawthorne, as a commercial well have not been confirmed, officials of the company flatly refusing to divulge any information concerning the status of the well. The test is located in what is regarded as strictly wildcat territory, although the Smith Brothers' well nearby produced a small quantity of oil for several months. Fractured oil and water sands have been found in several places near Hawthorne, but satisfactory water shutoffs have never been accomplished, unless the San Clemente has achieved the unusual feat in Peck 1. The company is erecting tanks for a more exhaustive test. Conservative estimates place the initial production at 150 barrels.

George W. Johnson's outpost well near the Richfield field recently flowed at the rate of 300 barrels when tested at 3793 feet, the oil testing 28 gravity and showing a cut of less than one per cent. A week ago the well staged a spectacular blowout at 3700 feet before a test of the 11⅝-inch casing at 3025 feet could be made, but the demonstration was attributed to a gas zone found in several parts of the district. A string of 8⅝-inch casing was cemented at 3784 feet, or only nine feet above the bottom of the hole. Disregarding the excellent showing of the well, more hole will be made in an effort to find a thicker producing zone.

Obligation

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Halliburton has contributed more during the last eight years toward the science and art of cementing oil wells than was contributed all time prior to 1920, and Halliburton's obligation to the industry demands constant improvement of organization, service, equipment and methods.

In good times and in bad, in flush fields and slack fields, Halliburton furnishes the same reliable service. Isn't it fair and good business to take the same advantage of this service in established fields and in boom fields alike? It is easy to find a price cutter in a boom field, but price cutting and dependability simply do not go together. To encourage one is to discourage the other. Every operator owes it to himself and to his industry to deal only with companies of unquestionable ability, reliability and integrity.

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OIL WELL CEMENTING COMPANY
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Say you saw it in The OIL WEEKLY

Gas Rescue Work to Be Exposition Feature

Tulsa.—A new feature arranged for the International Petroleum Exposition this year is a demonstration by U. S. Bureau of Mines safety workers of fighting oil field fumes and vapors. In this demonstration the bureau will divulge several new practices in life saving. It is planned as a great benefit to field workers as well as an educational feature for company officials and department heads.

The bureau's safety appliance car will be used for the demonstration with gas encased in a large steel tank with glass sides. Safety experts, equipped with gas masks, will enter the tank and effect the rescue of a workman overcome with poisonous fumes. The demonstration will not be just one of practice on a theoretical basis, but actual gas will be used, bureau officials state.

Following the rescue the various methods of resuscitation will be shown to the public. An official will explain the work as it is carried on in order to give visitors every detail of the work.

This work is being done by the bureau as a result of the heavy toll oil field fumes, especially in storage tanks, have taken in the field in the past few years.

This work is being cited by J. Burr Gibbons, general manager of the exposition, convening October 20 for 10 days, as being very valuable to field workers, and he urges company officials to privilege their field men to attend the demonstration.

Tulsa. — Prairie Pipe Line Company shipped 5,294,564 barrels of crude during June, a daily average movement of 176,486 barrels, which registers a decline of 185,993 barrels when compared to shipments in May. The extra day in May over the 30-day month of June, however, shows little change in the amount of shipments.

Tulsa. — Barnsdall Oil Company entertained the members of the National Air Tour July 3 with an old fashioned barbecue of the Texas cattlemen's type at the company's park in the Osage Hills, eight miles northwest of Tulsa. Aside from the touring party, which included some of the country's air notables, there were about 200 friends of the Barnsdall organization present. Music by the company's band and jazz orchestra, a half dozen squared circle bouts and dancing made up the entertainment.

Fort Worth, Texas.—Texas Pacific Coal & Oil Company was host to the pilots and passengers of the 24 planes making a national air tour during their stopover in Fort Worth on the night of July 5 with a dinner at a local country club. The former company has a plane entered in the contest, and the only other oil company represented is The Texas Company. John Hancock, chief counsel for Texas Pacific was toastmaster.

West Texas Production

WINKLER COUNTY

	Producing Wells	Daily Average Prod.
Hendrick Field—		
Roxana Petroleum Corporation	20	*21,135
Southern Crude & R. A. Westbrook	24	*16,980
Atlantic & Collett-O'Keefe	7	*15,865
Humble Oil & Refining Company	28	*15,795
Roxana & The Texas Company	15	*12,790
Pure Oil Company	19	*12,540
Gulf Production Company	14	*11,495
Atlantic Oil Producing Company	21	*11,255
Republic Production Company	7	*10,415
Southern Crude & Dixie Oil Company	19	*8,870
Cranfill & Reynolds, Inc.	5	*8,530
Independent Oil & Gas Company	15	*7,480
Texon Oil & Land Company	5	*7,045
Marland Production Company	4	*4,660
Skelly Oil Company	5	*3,525
Murchison & Cranfill Bros. Oil Company	6	*2,715
Prairie Oil & Gas Company	2	*1,395
Magnolia Petroleum Company	8	1,140
The California Company	8	*1,075
Totals	237	174,705

CRANE COUNTY

Church & Fields—		
The Texas Company (was Landreth)	16	7,285
Simms Oil Co. & Atlantic Oil Prod. Co.	31	6,025
Prairie Oil & Gas Company	12	5,735
Magnolia Petroleum Company	33	4,405
Warner-Quinlan Company of Texas	27	4,380
Tidal Oil Co. & Turman-Maxwell	25	4,010
Humble Oil & Refining Company	14	3,225
Gulf Production Company	11	1,545
Independent Oil & Gas Company	7	1,325
The Texas Company	3	570
Church & Fields	2	270
T. P. Coal & Oil Company	1	45
Stidham & Thrasher	1	5
Totals	183	38,825
Culf-McElroy—		
Gulf Production Company	62	15,375
Gulf-Waddell—		
Gulf Production Company	1	15
Marland-Hughes—		
Marland Production Company	14	545
The Texas Company	9	140
C. C. Duffey et al	1	90
McMann Oil & Gas Company	2	55
Totals	26	830
Totals for Crane County	272	55,045

* Production partially pinched.

REAGAN COUNTY

	Producing Wells	Daily Average Prod.
Big Lake Field—		
Big Lake Oil Company	130	13,970
Texon Oil & Land Company	79	3,930
Skelly Oil Company, et al	1	35
The California Company	1	15
Totals	211	17,950

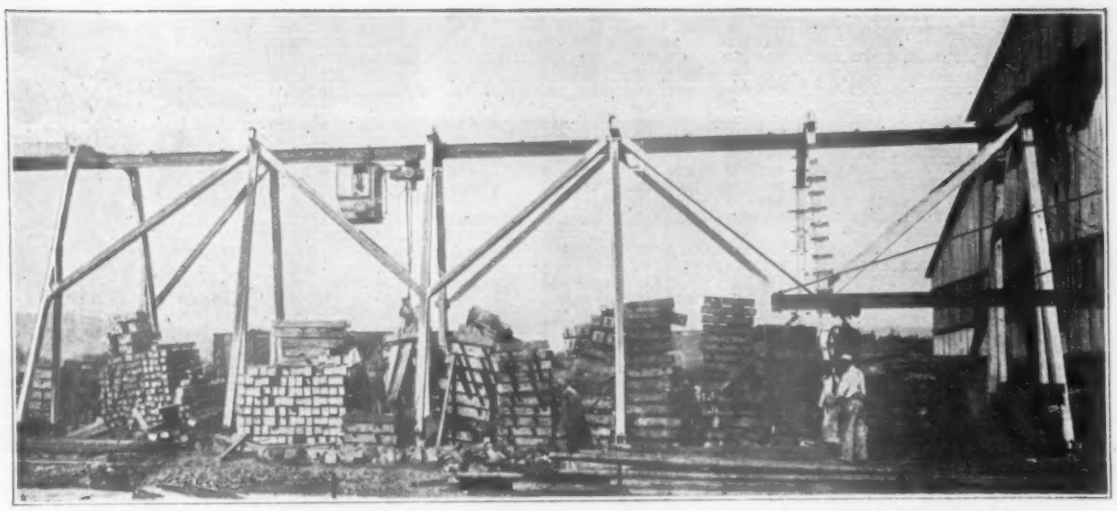
PECOS COUNTY

Yates Field—		
Mid-Kansas-Continental Oil Company	73	*21,895
The California Company	30	*9,280
Gulf Production Company	17	*7,830
Gulf Prod. Co. (Crockett Co.)	3	195
Roxana Petroleum Corporation	14	*5,360
McMann O&G Co. & Marland Prod. Co.	16	*5,215
Simms Oil Company	6	*4,765
Humble Oil & Refining Company	12	*4,080
McMan Oil & Gas Company	6	*3,055
Oil Operators Trust & A. T. Herd	7	1,590
Marland Production Company	10	*1,290
Red Bank Oil Company	3	*365
Mazda Oil Corp. & Savoy Oil Co.	2	*240
Kirby Pet. Co. & Edson Pet. Co.	1	155
Grayburg Oil Co. & T. T. Ward	3	120
Phillips Petroleum Company	1	95
Skelly Oil Company	1	75
Matador Oil Company	1	65
Kirby Petroleum Company	1	55
Dixie Oil Co. (Crockett County)	1	25
Totals	207	65,750

MISCELLANEOUS

Upton County	284	11,875
Howard County	158	*4,635
Mitchell County	141	3,020
Crockett County	35	1,825
Jones County	26	1,810
Fisher County	3	420
Loving County	3	130
Runnels County	2	130
Scurry County	5	35
Ector County	1	10
Totals	658	23,890
Totals for all fields	1586	337,340
Totals for previous week	1560	313,860

"Wherever There's Oil"



Right—Billet Yard at Lucey Plant showing piles of special Alloy Steel

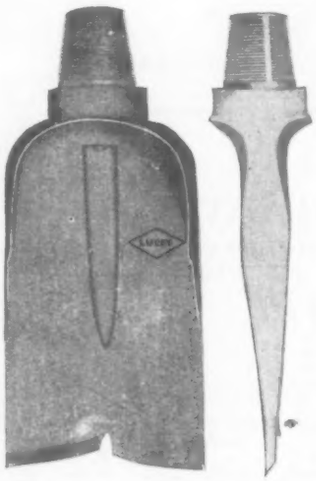
Lower Cost

Per Foot of Hole Drilled

Users of Lucey Fish-Tail Bits are assured of the best steel that metallurgical science can produce. The Lucey Forge Shop and Heat Treating Department are equipped with the latest heat control devices for modern, scientific manufacture. Lucey Bits are water tempered and do not require oil, but can be tempered in either oil or water.

Large companies have long recognized the superiority of Lucey Fish-Tail Bits. Below is shown part of an order for six carloads of 15½" x 36" dressed and hardened Lucey Fish-tail Bits destined for foreign fields. 140 tons of Lucey Special Alloy Bit Steel were used in the manufacture of this one order of bits.

All Lucey Products made according to A. P. I. specifications.



We wish to announce the establishment of offices and factory warehouses at Houston, Texas, and Shreveport, La. The T. T. Word Supply Company will continue as an authorized Lucey Distributor in South Texas, Louisiana, and Arkansas.

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United States Daily Average Production

Figures below are taken from the complete revised estimates of the AMERICAN PETROLEUM INSTITUTE except for the current week, which are advance estimates issued by the A. P. I. and are subject to revision:

1927	Oklahoma	Kansas	Texas (Outside Gulf Coast)	Gulf Coast	North Louisiana	Arkansas	Eastern States	Rocky Mountain	California	United States Daily Ave.	United States Total
January	598,500	117,200	466,400	173,900	52,900	131,550	107,850	84,450	653,450	2,386,200	73,972,150
February	693,350	116,250	479,800	154,600	52,800	128,200	107,150	85,300	642,700	2,460,150	68,884,300
March	710,350	116,100	475,000	154,750	51,450	124,500	104,400	87,600	640,850	2,465,000	76,414,900
April	723,700	115,400	477,300	155,100	50,500	113,350	108,000	89,350	644,550	2,477,250	74,317,750
May	742,200	114,600	488,700	151,300	47,450	112,700	114,000	89,300	633,550	2,493,800	77,307,700
June	768,600	112,200	480,800	151,650	49,150	112,450	111,850	86,050	638,550	2,511,300	75,338,900
July	846,750	107,750	475,800	142,950	56,200	109,900	111,800	86,950	620,700	2,558,800	79,322,300
August	832,900	105,100	483,450	139,350	56,950	104,750	114,600	80,750	621,450	2,539,300	78,717,850
September	797,450	105,200	493,750	142,900	53,450	101,350	110,800	74,500	637,250	2,516,650	75,498,900
October	782,300	105,100	497,900	138,400	51,300	100,450	113,600	73,250	629,000	2,491,300	77,230,000
November	766,900	106,650	501,750	138,100	49,400	97,850	114,900	75,050	623,850	2,474,450	74,233,500
December	720,700	106,150	531,650	138,500	47,200	94,950	111,250	77,150	624,600	2,452,150	76,017,050
1928											
January	675,450	108,300	523,300	125,450	45,250	90,050	109,600	77,000	617,100	2,371,500	73,516,500
February	664,450	110,550	538,750	115,800	45,300	88,250	104,850	75,550	614,750	2,358,250	68,388,850
March	646,850	112,250	575,850	119,900	44,400	85,600	102,150	78,700	617,450	2,383,150	73,877,650
April	620,450	112,150	617,850	118,850	46,900	83,450	107,000	78,500	613,550	2,398,700	71,961,100
May	610,100	108,750	561,450	129,850	43,600	91,250	112,100	82,200	630,900	2,370,200	73,476,300
June 2	599,700	107,950	533,450	131,850	42,700	107,050	112,000	89,900	640,800	2,365,400	16,557,800
June 9	596,650	106,550	533,650	139,050	43,250	106,600	110,500	82,750	644,800	2,363,800	16,546,600
June 16	598,950	105,450	536,750	135,650	42,500	106,150	109,000	82,000	642,000	2,358,450	16,509,150
June 23	592,200	104,200	565,350	135,600	41,950	101,800	107,500	81,450	645,500	2,375,550	16,348,850
June 30	590,250	103,850	587,900	132,200	41,600	95,550	109,500	81,300	642,000	2,384,150	16,689,050
July 7	584,000	103,600	589,500	134,900	42,650	91,950	111,500	76,750	649,000	2,383,850	16,686,950
Increase	.....	.....	1,600	2,700	1,050	.....	2,000	.....	7,000	.....	.....
Decrease	6,250	250	.....	.....	.....	3,600	.....	4,550	.....	300	2,100

TEXAS

(Outside Gulf Coast)

PANHANDLE DISTRICT

	July 6	June 30
Carson County	6,250	6,500
Gray County	20,850	20,550
Hutchinson County	35,850	36,450
Wheeler County	950	1,000
Others	300	200
Totals	64,200	64,700

NORTH TEXAS

Archer County	21,200	21,300
Burkburnett	10,500	10,550
Electra	13,300	13,100
Iowa Park-KMA	3,950	4,000
Montague and Cooke Counties	11,500	11,700
Wilbarger	22,300	21,000
Others	650	600
Totals	83,400	82,250

WEST CENTRAL TEXAS

Brown County	13,750	13,650
Callahan County	3,500	3,450
Coleman County	2,900	2,800
Eastland-Desdemona	8,150	7,900
Jack County	1,350	1,400
Palo Pinto County	450	450
Shackelford County	10,000	10,300
Stephens County	7,600	7,750
Throckmorton County	900	900
Young County	8,300	8,450
Others	600	650
Totals	57,500	57,700

WEST TEXAS

Crane-Upton Counties	67,100	68,050
Crockett County	2,300	2,200
Howard County	5,400	5,050
Jones County	1,500	1,050
Michell-Scurry Counties	3,000	3,100
Pecos County	55,950	63,950
Reagan County	8,350	17,950
Winkler County	181,700	173,700
Others	1,750	1,800
Totals	337,050	337,350

EAST CENTRAL TEXAS

Corsicana-Powell	11,050	11,100
Currie	500	500
Mexia	7,100	7,100
Nigger Creek	1,100	1,150
Richland	600	600
Wortham	1,900	1,900
Totals	22,250	22,350

SOUTHWEST TEXAS

Dale	1,250	1,300
Laredo District	8,050	6,350
Luling	13,600	13,700
Lytton Springs	1,100	1,100
Somerset	700	700
Others	400	400
Totals	25,100	23,550
Total Tex (outside Gulf Coast)	589,500	587,900

TEXAS GULF COAST

Barbers Hill	900	850
Batson	1,400	1,450
Big Creek	2,100	1,500
Blue Ridge	6,500	5,000
Boling	1,950	2,000
Damon Mound	900	1,000
Goose Creek	6,800	6,950
Hull	10,900	11,000
Humble	1,300	1,400
Orange County	4,150	4,200
Pierce Junction	10,800	10,800
Saratoga	1,100	1,100
Sour Lake	3,500	3,450
South Liberty	4,500	5,000
Spindle Top	39,500	38,600
West Columbia	8,150	8,200
Others	2,200	2,300
Totals	106,650	104,800
Texas Total	696,150	692,700

OKLAHOMA

North Braman	2,900	2,900
South Braman	1,450	1,450
Blackwell	3,550	3,550
Hubbard	2,700	2,750
Thomas	1,300	1,300
Tonkawa	13,800	13,850
Garber	8,750	8,750
Burbank	31,750	31,500
Osage (outside Burbank)	26,900	26,950
Watchorn	....	700
Cushing	19,700	19,700
Yale Jennings	8,150	8,200
Davenport	1,900	2,000
Bristow Slick	21,900	21,950
North Okmulgee	15,050	15,100
Pearson	4,800	5,000
Lyons Deaner	6,300	6,300
St. Louis	24,500	22,450
Stroud	....	1,100
Cromwell	9,500	9,650
Papoose	4,200	4,350
Wewoka	6,400	6,450
Seminole	50,650	51,450
Bowlegs	58,150	59,000
Searight	12,700	13,050
Little River	41,500	42,950
Earlsboro	81,800	83,500
Duncan District	8,150	8,100
Graham	5,450	5,450
Fox	1,650	1,650
Healdton	14,100	14,100
Hewitt	9,450	9,450
Allendome	20,250	....
Scholem Alechem	15,000	15,150
Others	49,650	48,900
Totals	584,000	590,250

CALIFORNIA

Santa Fe Springs	36,000	36,000
Long Beach	202,000	197,000
Huntington Beach	55,000	55,000
Terrance	17,000	17,500
Dominguez	11,500	11,500
Rosecrans	6,000	6,000
Inglewood	29,000	29,000
Midway-Sunset	71,500	71,500
Ventura Avenue	53,000	49,500
Seal Beach	35,500	37,000
Others	132,500	132,000
Totals	649,000	642,000

KANSAS

Greenwood County	28,500	28,500
Florence-Covert	1,200	1,200
Peabody-Elbing	3,350	3,350
Eldorado-Towanda	13,700	13,700
Augusta-Fox Bush	3,900	3,900
Rainbow Bend	1,600	1,600
Russell	4,200	3,500
Churchill	10,400	10,850
Oxford	11,550	12,000
Others	25,200	25,200
Totals	103,600	103,850

NORTH LOUISIANA

	July 6	June 30
Homer	4,350	4,350
Haynesville	6,250	6,250
Caddo Light	10,000	9,850
Caddo Heavy	3,400	3,300
Desoto-Red River	4,100	4,150
Elm Grove	600	550
Bellevue	850	900
Cotton Valley Light	1,600	100
Cotton Valley Heavy	4,100	4,100
Urania	6,850	6,900
Pleasant Hill	550	550
Totals North La.	42,650	41,600

LOUISIANA GULF COAST

Edgerly	1,100	1,200
Evangeline	900	850
Lockport	4,200	4,400
Vinton	4,500	4,600
Sorrento	2,200	1,200
East Hackberry	5,650	4,400
Sweet Lake	3,800	3,700
Bayou Boullion	700	700
Sulphur Dome	5,000	6,150
Others	200	200
Total La. Gulf Coast	28,250	27,400
Louisiana Total	70,900	69,000

ARKANSAS

El Dorado	5,250	5,250
Champagnolle	15,150	18,900
Sackover Light	7,650	7,700
Smackover Heavy	59,050	58,900
Stephens	1,050	1,050
Nevada	1,600	1,600
Lisbon	2,100	2,050
Others	100	100
Totals	91,950	95,550

MOUNTAIN STATES

WYOMING

Salt Creek	34,850	40,650
Grass Creek	2,450	2,550
Elk Basin	1,300	1,250
Big Muddy	2,750	2,700
Lost Soldier	4,200	4,200
Rock River	2,600	2,550
Lance Creek	550	600
Others	7,150	6,850
Totals	55,850	61,350

MONTANA

Cat Creek	1,700	1,750
Sunburst	8,600	8,600
Others	150	150
Totals	10,450	10,500

COLORADO

Moffatts (Craig)	1,050	1,000
Fort Collins	2,600	2,700
Florence	1,250	1,050
Others	3,500	2,650
Totals	8,400	7,400

NEW MEXICO

Table Mesa	1,150	1,150
Artesia	200	....
Hogback	500	200
Rattlesnake	....	500
Others	200	200
Totals	2,050	2,050
Totals, Mountain States	76,750	81,300

EASTERN STATES

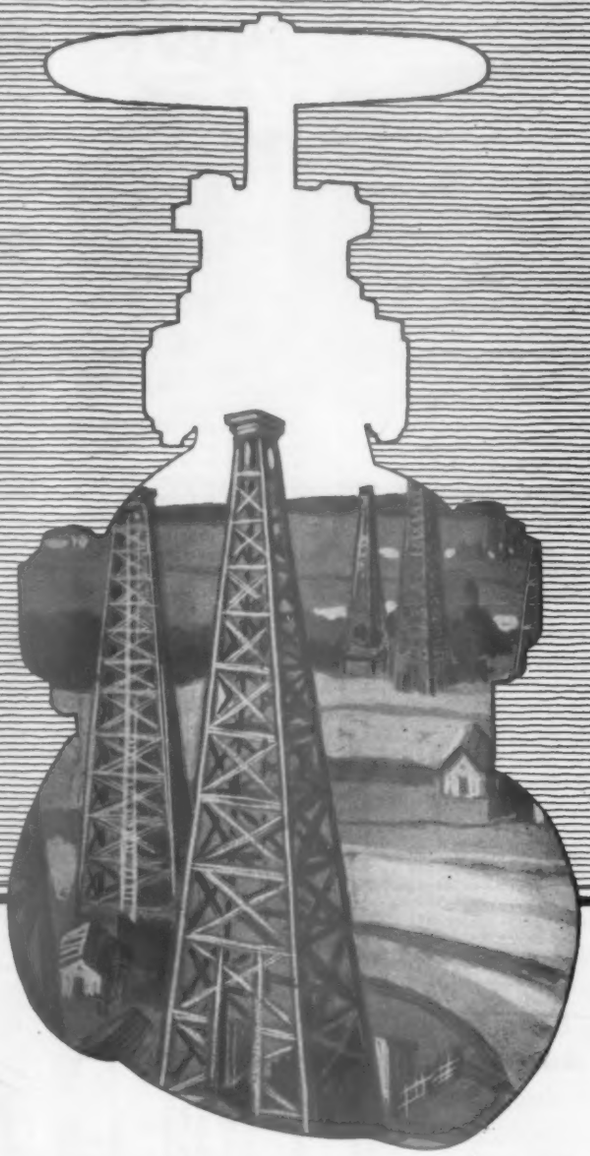
(Including Ill., Ind., Ohio, W. Va., Pa., Ky., and N. Y.)	111,500	109,500

PRODUCTION SUMMARY

East of Rockies	1,660,850
Total United States	2,384,150

Darling Gate Valve parts are perfectly plain and free from pockets. The rotating discs seat in a different position with every operation. They shut tightly and open easily.

TRADE DARLING MARK



Economical Recovery

Is as big a factor as speedy drilling when you figure up your total production costs—from "rock hound" to storage tanks.

Don't waste—don't lose control of what you work so hard to get. Standardize on the valve that operates perfectly for the longest time under every condition. Ask any old-timer what he thinks of Darlings.

Darling Valve & Manufacturing Co.

Williamsport, Pa.

New York Chicago Oklahoma City Houston

Mid-Continent Distributors

Frick-Reid Supply Co.
International Supply Co.

Atlas Supply Co.
Petroleum Supply Co.

California Distributor
Petroleum Equipment Co., Los Angeles

CRUDE OIL PRICE QUOTATIONS

CURRENT POSTINGS

EASTERN STATES

	July 11 1928
New York Transit	$3.20
Bradford District	3.20
National Transit	3.10
Southwest	3.10
Eureka	3.00
Buckeye	2.85
Blackburg	2.80
Gaines	2.60
Somerset	1.55
Cabell	1.45
Ragland	.95
Corning, 35-cent grade	1.45
Corning, 25-cent grade	1.55
Keister	1.20

CENTRAL STATES

Illinois	1.50
Indiana	1.32
Lima	1.55
Plymouth	1.23
Princeton	1.50
Waterloo	1.35
Wooster	1.57

WESTERN KENTUCKY

Posted by Stoll Refining Company for crude from Allen, Warren, Franklin, Davies, Barren, All grades 1.50

MID-CONTINENT

Prairie, Sinclair and Gulf

28 to 28.9 gravity	.96
29 to 29.9 gravity	1.01
30 to 30.9 gravity	1.06
31 to 31.9 gravity	1.11
32 to 32.9 gravity	1.16
33 to 33.9 gravity	1.19
34 to 34.9 gravity	1.22
35 to 35.9 gravity	1.25
36 to 36.9 gravity	1.28
to 37.9 gravity	1.31
to 38.9 gravity	1.34
39 to 39.9 gravity	1.37
40 to 40.9 gravity	1.40
41 to 41.9 gravity	1.43
42 to 42.9 gravity	1.46
43 to 43.9 gravity	1.49
44 to 44.9 gravity	1.52
45 to 45.9 gravity	1.55
46 to 46.9 gravity	1.58
47 to 47.9 gravity	1.61
48 to 48.9 gravity	1.64
49 to 49.9 gravity	1.67
51 to 51.9 gravity	1.73
52 and above	1.76
50 to 50.9 gravity	1.70

NORTH AND CENTRAL TEXAS

Ranger, North Texas, Mexia, Powell, Richland, Wortham, Currie, Moran, Nocona and Lytton Springs Crude
(Humble Oil and Refining Company and Gulf Refining Company)*

	July 11 1928
Below 25 gravity	.76
25 to 25.9 gravity	.81
26 to 26.9 gravity	.86
27 to 27.9 gravity	.91
28 to 28.9 gravity	.96
29 to 29.9 gravity	1.01
30 to 30.9 gravity	1.06
31 to 31.9 gravity	1.11
32 to 32.9 gravity	1.16
33 to 33.9 gravity	1.19
34 to 34.9 gravity	1.22
35 to 35.9 gravity	1.25
36 to 36.9 gravity	1.28
37 to 37.9 gravity	1.31
38 to 38.9 gravity	1.34
39 to 39.9 gravity	1.37
40 to 40.9 gravity	1.40
41 to 41.9 gravity	1.43
42 to 42.9 gravity	1.46
43 to 43.9 gravity	1.49
44 to 44.9 gravity	1.52
45 to 45.9 gravity	1.55
46 to 46.9 gravity	1.58
47 to 47.9 gravity	1.61
48 to 48.9 gravity	1.64
49 to 49.9 gravity	1.67
50 to 50.9 gravity	1.70
51 to 51.9 gravity	1.73
52 and above	1.76

*Humble's postings stop at 44 and above, at $1.52.

NORTH AND CENTRAL TEXAS

(The Texas Company and Magnolia Petroleum Company)*

24 to 24.9 gravity	.76
25 to 25.9 gravity	.81
26 to 26.9 gravity	.86
27 to 27.9 gravity	.91
28 to 28.9 gravity	.96
29 to 29.9 gravity	1.01
30 to 30.9 gravity	1.06
31 to 31.9 gravity	1.11
32 to 32.9 gravity	1.16
33 to 33.9 gravity	1.19
34 to 34.9 gravity	1.22
35 to 35.9 gravity	1.25
36 to 36.9 gravity	1.28
37 to 37.9 gravity	1.31
38 to 38.9 gravity	1.34
39 to 39.9 gravity	1.37

	July 11 1928
40 to 40.9 gravity	1.40
41 to 41.9 gravity	1.43
42 to 42.9 gravity	1.46
43 to 43.9 gravity	1.49
44 to 44.9 gravity	1.52
45 to 45.9 gravity	1.55
46 to 46.9 gravity	1.58
47 to 47.9 gravity	1.61
48 to 48.9 gravity	1.64
49 to 49.9 gravity	1.67
50 to 50.9 gravity	1.70
51 to 51.9 gravity	1.73
52 and above	1.76

*Magnolia Petroleum Company posts the schedule below on oil below 30 gravity and from 30 gravity up to 31.9. Beginning with 32 to 32.9, Magnolia's posting is the same as that of The Texas Company.

Below 30 gravity	.75
30 to 30.9 gravity	.90
31 to 31.9 gravity	1.05

Corsicana heavy is $1.00 posted by Magnolia.

SOUTH TEXAS

Mirando	1.00

SOMERSET

Grayburg

Below 33 gravity	1.0
33 to 33.9 gravity	1.07
34 to 34.9 gravity	1.08
35 to 35.9 gravity	1.11
36 to 36.9 gravity	1.14
37 to 37.9 gravity	1.17
38 and above	1.17

GULF COAST

Grade "A" all companies	1.20
Gulf Coast Light Oil, below 25	1.15
25 to 25.9 gravity	1.17
26 to 26.9 gravity	1.19
27 to 27.9 gravity	1.21
28 to 28.9 gravity	1.23
29 to 29.9 gravity	1.25
30 to 30.9 gravity	1.27
31 to 31.9 gravity	1.29
32 to 32.9 gravity	1.31
33 to 33.9 gravity	1.33
34 to 34.9 gravity	1.35
35 to 35.9 gravity	1.37
36 to 36.9 gravity	1.39
37 to 37.9 gravity	1.41
38 to 38.9 gravity	1.43
39 to 39.9 gravity	1.45
40 and above	1.47

*Humble Oil & Refining Company's postings on Gulf Coast Light stop at 35 to 35.9. Its price on all crudes above 35 to $1.37 per barrel.

Magnolia Petroleum Company's postings stop at 31 to 31.9.

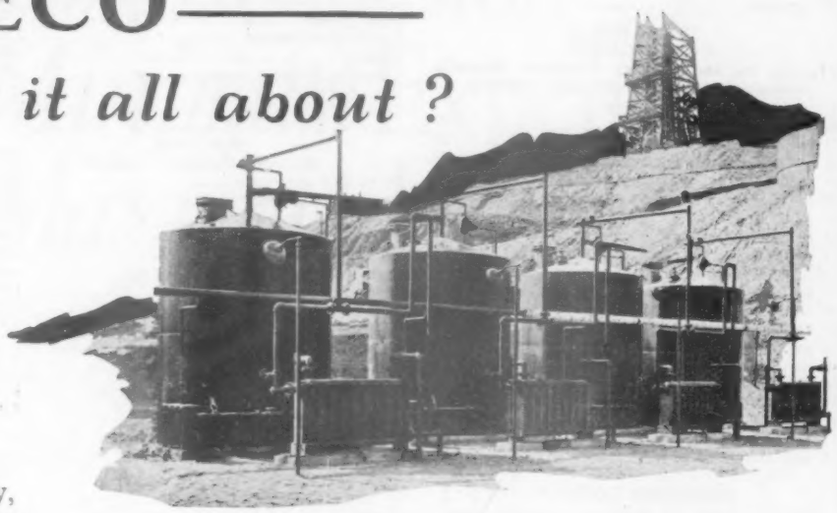
CALIFORNIA CRUDE OIL PRICES AT THE WELL

Following are the current prices offered by Standard Oil Company for crude oil at the well: (Price per barrel of 42 gallons in fields indicated.)

Gravity (degrees)	Signal Hill	Seal Beach	Huntington Beach	Inglewood	Olinda-Brea Canon	Athens-Rosecrans Dominguez	Torrance	Richfield	Whittier La Harbra	Montebello	Coyotte Hill	Santa Fee Springs	Newhall McKittrick Kern River	Midway Sunset Elk Hills	Buena Vista Hills	Lost Hills	Coalinga	Wheeler
14-14-9	$ .85	$ .85	$ .85	$ .85	$ .85	$ ..	$ .85	$ .85	$ .85	$ .85	$ .85	$ ..	$ .75	$ .75	$ .75	$ .75	$ .75	$ .75
15-15-9	.85	.85	.85	.85	.85	..	.85	.85	.85	.85	.85	..	.75	.75	.75	.75	.75	.75
16-16-9	.85	.85	.85	.85	.85	..	.85	.85	.85	.85	.85	..	.75	.75	.75	.75	.75	.75
17-17-9	.85	.85	.85	.85	.85	..	.85	.85	.85	.85	.85	..	.75	.75	.75	.75	.75	.75
18-18-9	.85	.85	.85	.85	.85	..	.85	.85	.85	.85	.85	..	.75	.75	.75	.75	.75	.75
19-19-9	.85	.85	.85	.85	.85	..	.85	.85	.85	.85	.85	..	.75	.75	.75	.75	.75	.75
20-20-9	.85	.85	.85	.85	.85	..	.85	.85	.85	.85	.85	..	..	.77	.77	.77	.76	.76
21-21-9	.86	.86	.86	.86	.86	..	.86	.86	.85	.85	.86	.85	..	.79	.79	.79	.77	.77
22-22-9	.87	.87	.87	.87	.87	..	.87	.87	.85	.85	.87	.85	..	.81	.81	.81	.78	.78
23-23-9	.88	.88	.88	.88	.88	..	.88	.88	..	.85	.88	.85	..	.83	.83	.83	.79	.79
24-24-9	.89	.89	.89	.89	.89	..	.89	.89	..	.85	.89	.85	..	.85	.85	.85	.80	.80
25-25-9	.90	.90	.90	.90	.90	.90	.90	.90	..	.86	.90	.86	..	.87	.87	.87	.81	.81
26-26-9	.92	.92	.92	.92	.92	.92	.92	.92	..	.87	.91	.87	..	.89	.89	.89	.83	.82
27-27-9	.94	.94	.94	.94	.94	.94	.94	.94	..	.88	.92	.88	..	.91	.91	.91	.85	.83
28-28-9	.96	.96	.96	.96	.96	.96	.96	.96	..	.89	.93	.89	..	.93	.93	.93	.87	..
29-29-9	.98	.98	.98	..	.98	.98	..	1.00	..	.91	.95	.93	..	.99	.99	.99	.91	..
30-30-9	1.00	1.00	1.00	..	1.00	1.00	..	..	..	..	..	.95	..	1.02	1.02	1.02	.93	..
31-31-9	1.03	1.03	1.03	..	..	1.03	..	..	..	..	..	.97	..	1.05	1.05	1.05	.95	..
32-32-9	1.06	1.06	1.06	..	..	1.06	..	..	..	..	..	.99	..	1.08	1.08	1.08	.97	..
33-33-9	..	..	..	..	..	1.09	..	..	..	..	..	1.01	..	..	..	1.11	.99	..
34-34-9	..	..	..	..	..	1.12	..	..	..	..	..	1.03	..	..	..	..	1.01	..
35-35-9	..	..	..	..	..	1.15	..	..	..	..	..	1.06	..	..	..	..	..	..
36-36-9	..	..	..	..	..	1.18	..	..	..	..	..	1.09	..	..	..	..	..	..
37-37-9	..	..	..	..	..	1.21	..	..	..	..	..	1.12	..	..	..	..	..	..
38-38-9	..	..	..	..	..	1.24	..	..	..	..	..	1.15	..	..	..	..	..	..
39-39-9	..	..	..	..	..	1.27	..	..	..	..	..	..	..	..	..	..	..	..
40-40-9	..	..	..	..	..	1.30	..	..	..	..	..	..	..	..	..	..	..	..
41-41-9	..	..	..	..	..	1.33	..	..	..	..	..	..	..	..	..	..	..	..
42-42-9	..	..	..	..	..	1.36	..											

PETRECO——

what's it all about?

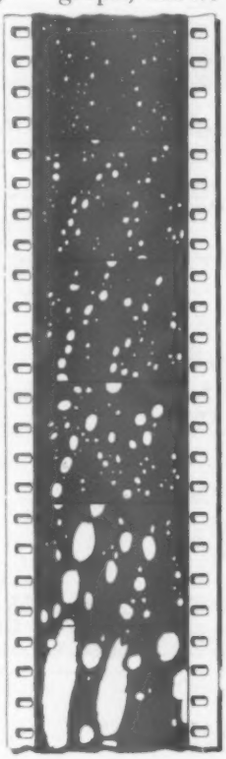


THERE is no mystery, no magic about the "Petreco" method of electrical dehydration of emulsions. It is a practical, tested method, certain in its results, unusually economical in practice, and highly profitable.

In the first place crude oil emulsions are simply particles of water of varying sizes surrounded by tenuous films of oil. There is, generally speaking, little extraneous matter present. It remains only to take the water away—dehydrate the emulsion—in order to convert crude oil emulsions or "cut oil" into pipe line oil.

This operation is a difficult one for any dehydrating process except the electrical method (exclusive, owned by "Petreco.") In this process a high potential alternating current is used on the emulsion, which ruptures the oil films and allows the particles of water to coalesce and form larger drops, which quickly settle out by gravity.

Study of the illustration, which is an accurate drawing from a motion-photomicrograph, shows the steps in the dehydration of the emulsion. The smaller drops of water, which can be readily seen, quickly join with others to form chains, which finally develop into large heavy drops which quickly settle to the bottom of the tank and are drawn off; while the clean oil flows into the tank line.



Sections of a motion-photomicrograph of the action of electrical dehydration on a 35% emulsion. Note how the water particles released from the enclosing oil films, join to become heavy drops that readily settle out by gravity.

Electrical dehydration is clean dehydration—as near 100% as it is mechanically possible to achieve. There is no successful substitute for electrical dehydration; and "Petreco" and electrical dehydration are synonymous. There is no other.

Progressive operators everywhere are finding that "Petreco" dehydration means the end of "cut oil" losses; that it operates economically and produces definite profits. There is a world of valuable information in our booklet "The Electrical Process for the Dehydration of Crude Oil Emulsions." Your copy is ready and waiting. Send for it today and learn how "Petreco" will make more money for you.

PETROLEUM RECTIFYING COMPANY of CALIFORNIA

Security Title Insurance Bldg. 530 West 6th Street, Los Angeles, Calif.

Petroleum Bldg. Houston, Texas

Petreco

	July 11 1928
The Texas Company	
MARKHAM	
All grades	1.00
LULING	
All grades	1.00
PANHANDLE	
GRAY COUNTY	
(Humble Oil and Refining Company, Magnolia Petroleum Company and Gulf Refining Company)	
Below 27 gravity	.60
27 to 27.9 gravity	.65
28 to 28.9 gravity	.70
29 to 29.9 gravity	.75
30 to 30.9 gravity	.80
31 to 31.9 gravity	.85
32 to 32.9 gravity	.90
33 to 33.9 gravity	.93
34 to 34.9 gravity	.96
35 to 35.9 gravity	.99
36 to 36.9 gravity	1.02
37 to 37.9 gravity	1.05
38 to 38.9 gravity	1.08
39 to 39.9 gravity	1.11
40 to 40.9 gravity	1.14
41 to 41.9 gravity	1.17
42 to 42.9 gravity	1.20
43 to 43.9 gravity	1.23
44 and above	1.26
WHEELER COUNTY	
(Humble Oil and Refining Company and Magnolia Petroleum Company)	
Below 29 gravity	.60
29 to 29.9 gravity	.65
30 to 30.9 gravity	.70
31 to 31.9 gravity	.75
32 to 32.9 gravity	.80
33 to 33.9 gravity	.83
34 to 34.9 gravity	.86
35 to 35.9 gravity	.89
36 to 36.9 gravity	.92
37 to 37.9 gravity	.95
38 to 38.9 gravity	.98
39 to 39.9 gravity	1.01
40 to 40.9 gravity	1.04
41 to 41.9 gravity	1.07
42 to 42.9 gravity	1.10
43 to 43.9 gravity	1.13
44 and above	1.16
CARSON-HUTCHINSON COUNTIES	
(Humble Oil and Refining Company, Magnolia Petroleum Company and Gulf Refining Company)	
Below 31 gravity	.60
31 to 31.9 gravity	.65
32 to 32.9 gravity	.70
33 to 33.9 gravity	.73
34 to 34.9 gravity	.76
35 to 35.9 gravity	.79
36 to 36.9 gravity	.82
37 to 37.9 gravity	.85
38 to 38.9 gravity	.88
39 to 39.9 gravity	.91
40 to 40.9 gravity	.94
41 to 41.9 gravity	.97
42 to 42.9 gravity	1.00
43 to 43.9 gravity	1.03
44 and above	1.06
WEST TEXAS	
(Humble, Gulf, Magnolia, The Marland Company and Southern Crude Oil Purchasing Company)*	
Crane- Upton, Crockett, Pecos and Winkler Counties, all grades	.60
*Gulf does not post in Winkler County; Magnolia posts only in Crane and Upton Counties; The Marland Company, post only in Crane, Upton and Crockett Counties; Southern posts only in Crane, Upton and Winkler Counties.	
(Magnolia Petroleum Company)	
Mitchell County	$ .80
Howard-Glasscock County (shallow)	.80
Howard-Glasscock County (deep)	.60
Col-Tex Refining Company	
Howard and Mitchell Counties	$ .80
WYOMING-MONTANA	
Wyoming	
Byron	1.33
Ferris	1.60
Elk Basin	1.33
Grass Creek	1.33
Rock Creek	1.25
Lost Soldier	.95
Lance Creek	1.33
Mule Creek	1.10
Notches	.65
Big Muddy	1.25
Osage	1.33
Hamilton Dome	.85
Pilot Butte	1.75
Torchlight-Greybull	1.33
Lander	.80
Simpson Ridge	.80
Rex Lake	1.10
South Casper Creek-Poison Spider	1.00
Salt Creek	
Midwest Refining Company	
29 to 29.9 gravity	1.14
30 to 30.9 gravity	1.16
31 to 31.9 gravity	1.18
32 to 32.9 gravity	1.20
33 to 33.9 gravity	1.22
34 to 34.9 gravity	1.24
35 to 35.9 gravity	1.26
36 to 36.9 gravity	1.28
37 and above	1.30
MONTANA	
Sunburst	$1.65
Cat Creek	1.33
Lake Basin	2.20
NEW MEXICO	
Artesia	1.00
Hogback	1.38
CANADA	
Oil Springs	2.02
Petrolia	1.95
LOUISIANA-ARKANSAS	
(All Companies)*	
Homer, Haynesville, Caddo, El Dorado, De Soto and Crichton and Cotton Valley**	
Below 28 gravity	.91
28 to 28.9 gravity	.96
29 to 29.9 gravity	1.01
30 to 30.9 gravity	1.06
31 to 31.9 gravity	1.11
32 to 32.9 gravity	1.16
33 to 33.9 gravity	1.19
34 to 34.9 gravity	1.22
35 to 35.9 gravity	1.25
36 to 36.9 gravity	1.28
37 to 37.9 gravity	1.31
38 to 38.9 gravity	1.34
39 to 39.9 gravity	1.37
40 to 40.9 gravity	1.40
41 to 41.9 gravity	1.43
42 to 42.9 gravity	1.46
43 to 43.9 gravity	1.49
44 to 44.9 gravity	1.52
45 to 45.9 gravity	1.55
46 to 46.9 gravity	1.58
47 to 47.9 gravity	1.61
48 to 48.9 gravity	1.64
49 to 49.9 gravity	1.67
50 to 50.9 gravity	1.70
51 to 51.9 gravity	1.73
52 and above	1.76

*Shreveport-Eldorado's postings stop at above 40 gravity.

**Below 36 gravity, the posting on Cotton Valley is 75 cents. From 36 to 52 and above the regular gravity schedule is followed.

	July 11 1928
STEPHENS	
(All Companies)	
Below 28	.85
28 to 28.9 gravity	.87
29 to 29.9 gravity	.89
30 to 30.9 gravity	.91
31 to 31.9 gravity	.93
32 and above	.95
SMACKOVER	
(All Companies)	
Below 24 gravity	.75
24 and above	.85
Bellevue	1.25
Jennings	1.15
Vinton	1.30
Edgerly	1.30
Starks Dome	1.30
Urania	.75
Calion	.75

IMPORTS OF PETROLEUM AT PRINCIPAL UNITED STATES PORTS

American Petroleum Institute Figures (Barrels of 42 gallons)

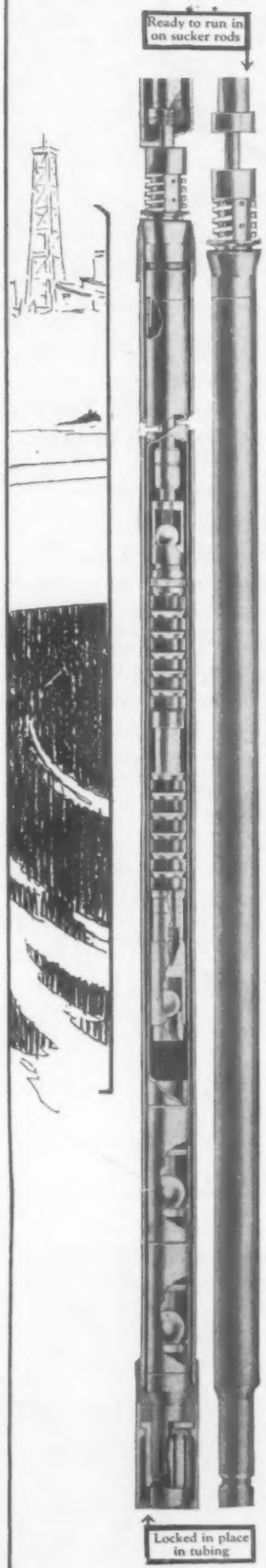
	Week Ended June 30	Week Ended June 23
AT ATLANTIC COAST PORTS—		
Baltimore	202,000	140,000
Boston	75,000	149,000
New York	646,000	950,000
Philadelphia	267,000	314,000
Others	72,000	210,000
Total	1,262,000	1,763,000
Daily average	180,286	251,857
AT GULF COAST PORTS—		
Galveston District	55,000	.....
New Orleans and Baton Rouge	118,000	70,000
Port Arthur and Sabine District	65,000	.....
Tampa	.....	.....
Total	238,000	70,000
Daily average	34,000	10,000
AT ALL UNITED STATES PORTS—		
Total	1,500,000	1,833,000
Daily average	214,286	261,857
Daily average four weeks ended	226,893	232,536

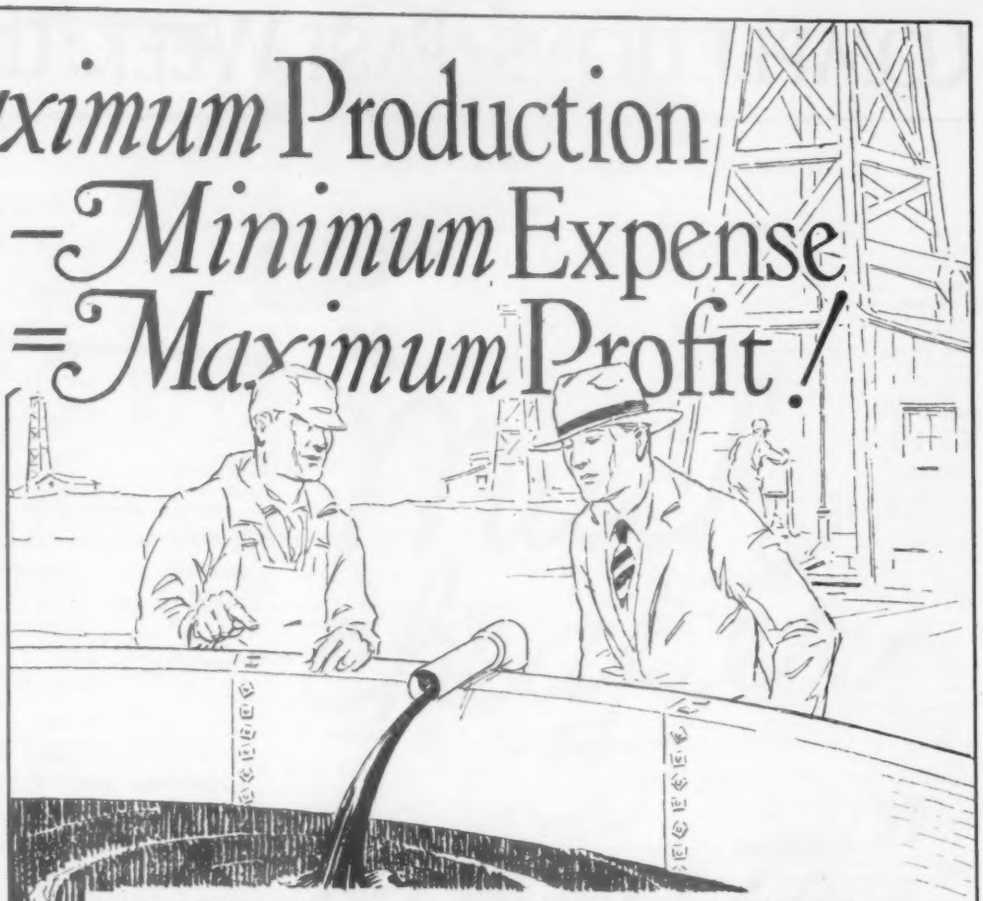
RECEIPTS OF CALIFORNIA OIL AT ATLANTIC AND GULF COAST PORTS

American Petroleum Institute Figures (Barrels of 42 gallons)

	Week Ended June 30	Week Ended June 23
AT ATLANTIC COAST PORTS—		
Baltimore	174,000	180,000
Boston	.....	.....
New York	148,000	238,000
Philadelphia	115,000	158,000
Others	97,000	95,000
Total	534,000	671,000
Daily average	76,286	95,857
AT GULF COAST PORTS	.....	.....
Daily average	.....	.....
TOTAL—ATLANTIC AND GULF COAST PORTS	534,000	671,000
Daily average	76,286	95,857
Daily average four weeks ended	65,750	59,750
DISTRIBUTION OF TOTAL CALIFORNIA OIL RECEIPTS IS AS FOLLOWS:		
Crude	.....	81,000
Gasoline	534,000	419,000
Gas Oil	.....	76,000
Kerosene Distillate	.....	95,000
Total	534,000	671,000

Maximum Production —*Minimum* Expense =*Maximum* Profit!





SUCCESSFUL production men know this rule. They also know that the pump in the well can do more to prove this rule than any other equipment! Thousands of production men prefer *EPCO PUMPS* because *EPCO* produces more oil at less expense than any other pump.

Besides producing *all* the oil the well makes, *EPCO eliminates 99 out of 100 tubing jobs....* it *uses less fuel ....*is *easier on rods....*and it *keeps the beam bobbing!*

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THE ECONOMY
EPCO PUMP
PUMP & OIL TOOL CO

COMPLETIONS FOR PAST WEEK IN U.S. FIELDS

SUMMARIZED REVIEW OF FIELD RESULTS

State—	Completions This Week	Completions Last Week	Producers This Week	Producers Last Week	Gas Wells This Week	Gas Wells Last Week	Failures This Week	Failures Last Week	Initial Production This Week	Initial Production Last Week
Arkansas	3	9	2	2	..	..	1	7	509	2,400
California	10	15	9	13	..	..	1	2	5,850	15,810
Illinois	6	..	5	..	1	..	..	..	158	....
Indiana	7	2	4	2	..	..	3	..	178	60
Kansas	13	30	7	13	..	1	6	16	1,820	2,440
Kentucky	42	21	24	17	..	..	18	4	701	1,222
Louisiana	17	5	7	1	4	3	6	1	4,135	12
Michigan	3	..	3	..	..	..	..	..	480	....
Ohio	22	39	19	15	2	10	1	14	1,454	1,104
Oklahoma	85	44	44	21	14	4	27	19	23,561	8,490
Pennsylvania	8	25	3	22	4	2	1	1	37	51
Texas	117	100	60	62	2	5	55	33	88,981	72,495
West Virginia	35	13	8	2	21	11	6	..	103	70
Totals	368	303	195	170	48	36	125	97	127,967	104,154
Increase this week	65	..	25	..	8	..	28	..	23,813	....
Decrease this week	..	..	..	..	..	..	..	..	....	....

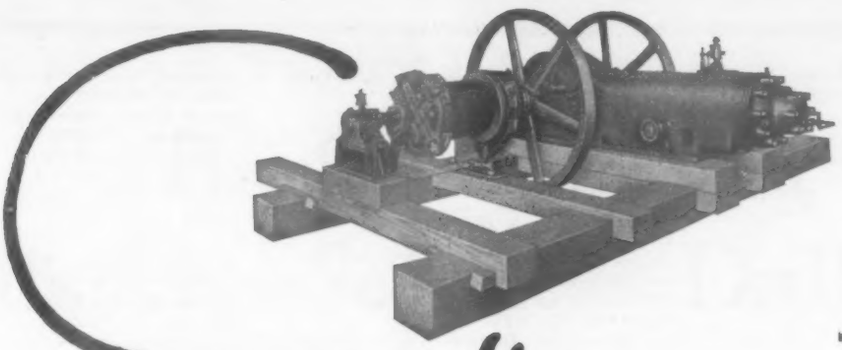
OKLAHOMA

Company, Well and Location	Initial Production Bbls.	Depth
CARTER COUNTY—		
Magnolia Pet. Co., Winter 2, ne sw se, 19-1s-3w	150	3330
Simpson & Fell, Winter 2, sw se se, 19-1s-3w	72	3382
Magnolia Pet. Co., Anderson 4, se nw nw, 23-1s-3w	157	2464
Sinclair O. & G. Co. & Gypsy Oil Co., Morris 2, sec ne, 29-2s-3w	¶1	2610
Humble Oil & Ref. Co., Snyder 1, nw sw sw, 34-1s-3w	*	3300
CREEK COUNTY—		
J. H. Markham, Beasley 6, sec nw, 20-17-7e	45	2779
Tidal Oil Co., Robinson 1, nec sw, 20-17-7e	40	2802
Twin State Oil Co., Coachman 1, sec nw, 20-17-7e	120	2773
C. G. Tibbèn, Jackson 4, nec sw, 4-18-12e	¶4	2065
G. D. Roberts, Panoske 1A, swc, 2-15-10e	10	2595
Savoy Oil Co. et al, Barnett 1, nec nw ne, 25-19-9e	*	2868
O. M. Irelan et al, Weaver 1A, nwc se, 16-17-11e	*	2239
COTTON COUNTY—		
Cullum & Jenkins, Smith 3, nec sw se se, 34-1s-10w	25	2199
Jenkins et al, Record 1, nec sw, 6-2s-10w	*	2158
GRADY COUNTY—		
Magnolia Pet. Co., Smith 7, nw sw ne, 35-5n-8w	¶50	2391
Meridian Gas Co., Woods 3, nwc sw ne nw, 2-4n-8w	¶12	2122
Kahl et al, Petty 1, sec ne, 14-4n-8w	¶30	2350
Carter Oil Co., Horton 6, ne nw ne, 8-3n-5w	100	1825
Simpson & Fell, Long 1, sw se se, 36-5n-7w	*	2434
KAY COUNTY—		
Ingram, Wilson, Anderson & Peterson, cwl sw ne, 31-27-2e	¶3	559
Parrish et al, Buessing 3, sec nw, 9-27-1e	*	1615
LOGAN COUNTY—		
Blackford O. & G. Co., Lair 1, c se, 28-16-1w	*	1675
Bu-Vi-Bar Pet. Co., Kirkpatrick 1, c sw, 12-15-1w	*	5793
MARSHALL COUNTY—		
E. L. Smith Oil Co., Null 1, nwc sw sw ne, 24-5s-5e	30	706
MUSKOGEE COUNTY—		
C. O. Buckles et al, Barnett 8, nec nw se, 8-15-15e	20	1673
F. S. Duga, Harris 1, nwc se, 19-15-19e	5	883
W. A. Peterson, James 8, csl se se, 18-14-17e	10	1406
Tidal Oil Co., Grimmett 13, cel sw sw, 5-14-18e	10	1383
J. B. Graves et al, Flowers 4, csl se nw, 5-13-16e	50	1879
Mitchell Oil Co., Barnett 4, nwc sw, 35-16-15e	*	1948
Shaffer & Heflin, Robison 1, sec, 36-15-18e	*	675
Scotch Oil Co., Crabtree 2A, cnl sw ne, 2-14-18e	*	1209
Robinson Bros., Tipton 3, ne se ne, 7-14-19e	*	700
C. Badgett et al, Hildebrand 1, swc nw se, 17-14-19e	*	....
OKFUSKEE COUNTY—		
McCullough Oil Co., Dindy 1, swc nw, 31-11-11e	*	4020
OKMULGEE COUNTY—		
Kirkland & Son, Brooks 2, cnl s½ ne sw, 17-15-13e	14	1447
Gibson 1A, swc se sw ne, 17-15-13e	8	1425
L. C. Wheeler, Throckmorton 1, nec nw, 32-15-13e	¶2	2002
J. E. Wallace, Colbert 10, nec nw se, 14-14-14e	25	1726
E. J. Lambert, King 7, cnl ne sw, 7-13-15e	¶1	1247
W. B. Pine, Henry 1, sec ne ne, 30-12-13e	¶1	1215
G. D. Roberts, Graham 2, sec nw ne, 22-15-11e	25	2139
Eagle-Picher Lead Co., Morton 1, sec ne ne, 32-13-12e	¶1	788
Roxaline Oil Co., Morris 5, c se nw, 21-14-14e	*	2400
Goodman et al, Anderson 5, cel se se, 36-16-14e	*	2013
OSAGE COUNTY—		
Kewanee O. & G. Co. 7, ne se sw, 21-27-6e	30	2978
Phillips Pet. Co. 1, swc se, 21-27-6e	500	2985
I. T. I. O. Co. 392, nec, 29-25-8e	¶7	661
A. G. Oliphant 1, cnl sw, 26-23-9e	20	2509
Silurian Oil Co. 51, nw se ne, 18-23-12e	10	1721
Tidal Osage Oil Co. 36, sec nw, 34-22-10e	2265	2364
Okla. Nat. Gas Co. 784, sw nw sw, 11-21-10e	¶1	1565
Smith Leahy et al 1, nwc ne ne se, 9-25-9e	*	1805
PAWNEE COUNTY—		
Fisher & Wallace, Unallotted 4, swc ne ne se, 30-20-9e	10	1105
POTTAWATOMIE COUNTY—		
Amerada Pet. Corp., Gravel 1, sw se ne, 1-8-4e	60	4429
Pierce Oil Corp., Davis 2, sw se ne, 25-7-3e	21	3922
Gypsy Oil Co., Cecil 4, nw se ne, 19-7-4e	852	3876
Indep. O. & G. Co. & Darby Pet. Co., Freid 2, se ne nw, 23-7-4e	1635	4274
Magnolia Pet. Co., Hembree 1, nwc se, 19-7-5e	6327	4122
T. B. Slick, Hembree 1, ne nw se, 19-7-5e	7165	4126
Geo. W. Boles, Rawley 1, sec nw, 25-7-3e	*	4220
SEMINOLE COUNTY—		
The Texas Co., Anderson 4, se sw se, 2-9-5e	185	4542
Gypsy Oil Co., Cosar 1, nwc ne, 36-8-6e	757	4251
Carter Oil Co., Spillman 1, se sw sw, 7-6-8e	40	2891
Mid-Continent Pet. Corp., Fleet 12, nw sw se, 7-5-8e	1100	2680
Sunray Oil Corp., Amos 1, ne se sw, 7-5-8e	510	2692
Gilcrease Oil Co., Reed 2, nwc ne, 18-5-8e	350	2698
I. T. I. O. Co., Soketche 7, nw sw ne, 1-7-6e	*	4955
SEQUOYAH COUNTY—		
Citizens Gas Co., 1, sec ne ne sw, 33-12-27e	*	1215
STEPHENS COUNTY—		
Magnolia Pet. Co., M. Green 5, sec nw, 13-1s-4w	260	2836
Coline Oil Co., Malechi 3, ne nw ne, 31-1n-8w	¶2	1680
Winkler & McQueen, Burns 1, sec nw, 31-1n-8w	15	1862
Magnolia Pet. Co., Burke 6, nec sw ne, 34-1s-8w	35	1678
Pace et al, Wilson 4, sec ne, 12-2s-8w	312	1569
Wilson 5, sec sw se ne, 12-2s-8w	150	1574
Pace et al, Smith 1, swc se, 35-1s-8w	*	2478
Owen & Wood, Massey 10, nec se se nw, 12-2s-8w	*	1617
Clark & Cowden, Watkins 1, se ne sw, 22-2s-7w	*	2500
Hawks & Ware, Florence 2, ne ne se, 11-3w-6w	*	380
TILLMAN COUNTY—		
A. N. Pearson et al, Indian 1, swc 3-5s-15w	*	2015
TULSA COUNTY—		
Ed Lee et al, Perryman 1, sec nw nw, 6-19-10e	6	1936
Altitude Pet. Co., Perryman 4, nwc sw sw sw, 30-19-13e	¶2	1476
Sheridan Oil Co., Jenkins 1, nwc sw, 10-16-12e	30	2018
WAGONER COUNTY—		
A. E. Creighton, Childers 2, nec nw, 22-18-17e	*	800
Brophy & Lumel, Bibson 1A, nwc, 17-16-15e	*	2185

KANSAS

Company, Well and Location	Initial Production Bbls.	Depth
BARBER COUNTY—		
J. D. K. Shaffer, Carter 1, c se se, 2-33-13w	*	3980
COWLEY COUNTY—		
Shawver et al, Aumann 1, nwc 10-34-3e	*	3802
Maverick Oil Co., Kimmell 2, se nw nw, 22-34-3e	*	635
OSBORNE COUNTY—		
Joe Liggett et al, Worley 2, sw se nw, 34-10-15w	*	3365
RUSSELL COUNTY—		
Keys Pet. Co., Mermis 14, se sw ne, 32-13-15w	250	3106
R. E. Day, Mermis 2, sec ne, 32-13-15w	600	3331
Mermis 1, sw se ne, 32-13-15w	500	3335
SUMNER COUNTY—		
Wasson et al, Gassoway 10, c e l w½ se sw, 14-32-2e	400	1644
Roxana Pet. Corp., Scroggins 2-A, sec ne nw, 14-32-2e	10	2090
Community 11, nw ne ne, 14-32-2e	40	2095
Sleigh 5, se nw nw, 36-31-2e	20	1952
Imo Oil Co., Quinn 1, nw ne sw, 21-33-2e	*	3710
Ramsey Bros. et al Bailey 1, nwc se, 22-32-2e	*	2343

FRANKLIN VALVELESS OIL AND GAS ENGINES



"Much cheaper to operate" Gilbert Jackson

Crossett, Texas.

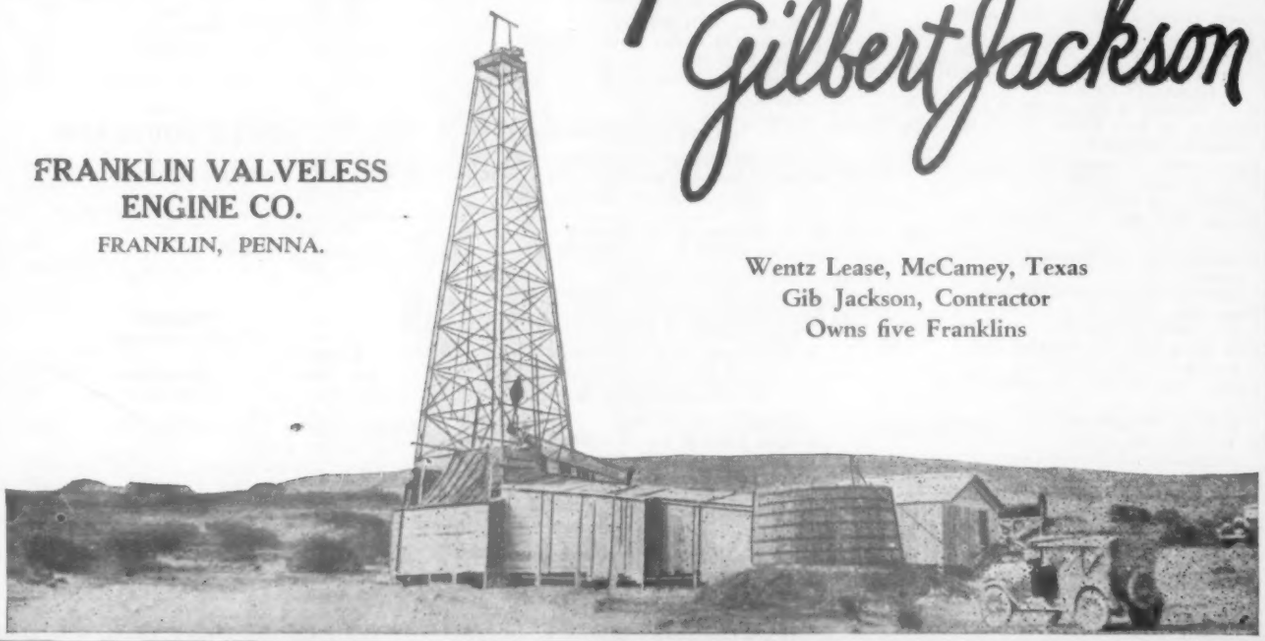
"I have five of them and am more than pleased with the results we are getting from them as I find them much cheaper to operate than any other of the engines I have had in use."

Gilbert Jackson.

The fuel bill for a Franklin Valveless is actually less than that for a Ford automobile! Lubricating costs are cut to a minimum—many Franklin Valveless Engines have drilled from 10 to 30 wells without costing one cent for repairs. As for water—100 barrels will cool the engine and mix mud for approximately 1000 feet of oil.

FRANKLIN VALVELESS ENGINE CO.
FRANKLIN, PENNA.

Wentz Lease, McCamey, Texas
Gib Jackson, Contractor
Owns five Franklins



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OIL WELL SUPPLY CO.

Branch Stores in All Oil Fields

EASTERN STATES

PENNSYLVANIA

Company, Well and Location	Initial Production Bbls.	Depth
GREENE COUNTY—		
Jeannette Gas Co., Donley 1	dry	3012
Carnegie Nat. Gas Co., Henderson 3	3	....
Williamson 1	¶1½	....
McCall Drilling Co., Chambers 1	¶1¼	....
Milliken & Hoskinson, Leighter 1	¶¼	....
TIONESTA FIELD—		
Hi-Rock Oil Co., Hi-Rock 1	10	....
Hi-Rock 2	24	....
ALLEGHENY COUNTY—		
Samuel Young, Young 1	¶¼	....

WEST VIRGINIA

Company, Well and Location	Initial Production Bbls.	Depth
BOONE COUNTY—		
G. L. Cabot, Argogast 6	¶¼	....
Hope Nat. Gas Co., Canterbury 1	¶¼	....
Mullins 3	dry	....
Owens Bottle Machine Co., Chambers 1	¶½	....
Miller 1	¶½	....
Safe Deposit Trust 5	¶¼	....
E. Edwin Moore, Price 1	¶¼	....
United Fuel Gas Co., Chew 1	¶¼	....
WETZEL COUNTY—		
Manufacturers Light & Heat Co., Ice 1	dry	....
Buck & Iams, Elson 1	75	....
Carnegie Nat. Gas Co., Freeland 1	¶1¼	....
CALHOUN COUNTY—		
Hope Nat. Gas Co., Smith 1	¶2	....
McIntosh & Co., Sturms 2	¶2	....
Kingsbury & Dollman, Force 2	¶½2	....
LEWIS COUNTY—		
Cumberland-Allegheny Gas Co., Price 3	¶¼	1312
Waggoner 1	¶¼	....
The Hope Natural Gas Co., Hardman 2	¶¼	4392
MARION COUNTY—		
Manufacturers Light & Heat Co., Brown 1	¶1½	....
South Penn Oil Co., Defaw 8	¶1½	....
Owens Bottle Machine Co., Arnett 1	dry	2920
GILMER COUNTY—		
Chartiers Oil Co., Baptist Missionery 6	dry	....
Steer Creek O. & G. Co., Mollohan 5	¶1½	....
Hope Construction & Refg. Co., Ayres 3	¶1½	....
PLEASANTS COUNTY—		
E. C. Pickens & Co., Smith 1	2	....
Dinsmoor & Co., Pollard 2	2	....
WOOD COUNTY—		
Ira Connelly, Connelly 1	dry	....
T. J. Rothwell, Freshwater 2	2	....
LINCOLN COUNTY—		
United Fuel Gas Co., Petrys Heirs 1	¶½	....
Columbia Gas & Electric Co., Robertson 1	¶½	....
MONONGALIA COUNTY—		
Dunn Marr O. & G. Co., Bayard 1	10	....
RITCHIE COUNTY—		
New York Pet. Co., Cokeley Hrs 1	7	....
KANAWHA COUNTY—		
South Penn Oil Co., Bannister Hrs 16	3	....
HARRISON COUNTY—		
J. W. Johnson, Adams 1	¶¼	....
DODDRIDGE COUNTY—		
Manufacturers Light & Heat Co., Strickling 1	¶1	....
ROANE COUNTY—		
D. W. Law & Co., Newland 1	dry	....

ILLINOIS

Company, Well and Location	Initial Production Bbls.	Depth
LAWRENCE COUNTY—		
Ohio Oil Co., Nuttall 7	13	1660
Leighty Heirs 3, tract 47	60	1825
Updike 20	10	....
CRAWFORD COUNTY—		
Dinsmoor & Co., Hughes 21	¶1	....
Dark Bend Oil Co., Price 1	70	1545
WABASH COUNTY—		
J. S. Young & Co., Price 1	5	....

MICHIGAN

Company, Well and Location	Initial Production Bbls.	Depth
MUSKEGON COUNTY—		
Muskegon Oil Corp., H. Hinz 2	200	....
Bradley & Bradley, Layman 1	200	....
Dixie Oil Co., Figge 3	80	....

KENTUCKY

Company, Well and Location	Initial Production Bbls.	Depth
OHIO COUNTY—		
Daley & Lowman, Ezell 6	40	....
Ezell 7	60	....
Young & Lee, Ezell 6	50	....
Ohio Oil Co., Roach 1	135	573
J. C. Ellis & Co., Hoagland 6	25	....
Daniels-Griffith 5	dry	....
White Plains O. & G. Co., Duke Hrs 1	10	....
Cumberland Pet. Co., Phillips 1	dry	....
Wade & Moore, Clark 1	dry	....
Creek Drilling Co., Ford 3	dry	610
DAVIESS COUNTY—		
Creek Drilling Co., Howard 1	200	....
Rose Tyler 2	dry	....
Thompson & Tremor, Miles 5	20	....
Wade & Moore, Burton Heirs 2	20	....
L. C. Young & Co., Park 2	12	....
Ohio Oil Co., Roby 5	10	....
Wittmer O. & G. Co., Boutcher 1	dry	....
Evans & Co., Igleheart 1	dry	....
Unknown parties, Bill Kennedy 1	dry	....
BARREN COUNTY—		
Esslinger Oil Co., Glass 11	15	....
Glass 12	15	....
Mazel Oil Co., Neeley 8	4	....
T. Bane, Richards-Rodgers 2	dry	....
Smith & Esslinger, Elmore 1	dry	....
Fred C. Moore, Delk 2	dry	....
Hunt, Leach & Co., Oterburn 1	dry	....
R. B. Tyler, unknown tract 2	dry	....
Sandals & Co., White 1	dry	....
Berry & Robinson, McDaniels 1	dry	....
WARREN COUNTY—		
Thompson Oil Co., Bryant 11	2	1081
HANCOCK COUNTY—		
P. A. Stevens & Co., Stephens 1	10	....
WAYNE COUNTY—		
Dewey Oil Co., Gregory 10	5	....
Superior Oil Corp., Coyle Heirs 3	dry	....
B. S. Huffaker, Huffaker 4	dry	....
WOLFE COUNTY—		
Crit Childers, Childers 5	10	....
M. B. French & Co., Chapman Hrs 1	1	....
JOHNSON-MAGOFFIN COUNTIES—		
Hupp, Duff & Co., Whitt 2, tract 8	30	....
Jesse Hare & Co., Vanderpool 1	15	....
Henry Lemasters, Lemaster 4	2	....
ESTILL COUNTY—		
Superior Oil Corp., Simp Horn 32	5	....
Alexander 38	dry	....
McEldowney, Bowser & Co., Reed Heirs 5	5	....

SOUTHEASTERN OHIO

Company, Well and Location	Initial Production Bbls.	Depth
WASHINGTON COUNTY—		
Howard Dailey, Adams Heirs 5	3	....
First Nat. Bank of Lowell, Pfaff 19	2	....
F. C. Meister & Co., Starr 4	3	....
Charles Wirth & Co., Seamon 2	2	....
MONROE COUNTY—		
Herman Baker & Co., Hodge 1	2	....
Ward & Co., Ward 1	3	....
JEFFERSON COUNTY—		
A. H. Sutton & Co., Williams 6	3	....

CENTRAL OHIO

Company, Well and Location	Initial Production Bbls.	Depth
PERRY COUNTY—		
William Cline & Co., Forquer 1	755	....
Wehrle Interests, Pletcher 6	245	....
Ferguson 1	135	....
Luster 1	125	....
Allegheny Oil Co., Bennett 1	5	....
ASHLAND COUNTY—		
Kolb, White & Co., Bernhard 1	60	....
J. A. Johnson & Co., Myers 1	40	....
Harmon, Watts & Co., Shafer 1	5	....
LICKING COUNTY—		
Pure Oil Co., Seward & Co. 7	25	....
Preston Oil Co., Wright 2	18	....
C. C. Clay & Co., Striker 2	3	....
HOLMES COUNTY—		
Kemrow Co., Jones 1	¶¼	....
East Ohio Gas Co., Harford 2	¶½	....
FAIRFIELD COUNTY—		
E. O. Sloan & Co., Moyer 1	dry	....

NORTHWESTERN OHIO

Company, Well and Location	Initial Production Bbls.	Depth
ALLEN COUNTY—		
C. A. Peavey, Lenny 7	20	....

INDIANA

Company, Well and Location	Initial Production Bbls.	Depth
GIBSON COUNTY—		
Mann & Huber, Hutchinson 4	100	1420
Ohio Oil Co., Edwards 4	18	1556
SPENCER COUNTY—		
Wiser Oil Co., Larkin 1	dry	1360
Gales, Giles & Co., Huering Heirs 1	dry	1285
PIKE COUNTY—		
H. C. Darbey & Co., Stewart 1	30	1340
ADAMS COUNTY—		
William Kelley & Co., Stanley 1	30	....
MONROE COUNTY—		
Wesson & Co., Weeks 1	dry	....

CALIFORNIA

Company, Well and Location	Initial Production Bbls.	Depth
CAT CANYON—		
Palmer Union Oil Co., Stendill 10, 30-9-32	200	3400
LONG BEACH—		
Calif. Eastern Oil Co., Marine 28A	1250	6645
L. T. Edwards, Bradley 1	600	6000
George F. Getty, Inc., No. 27	900	5615
Graham-Loftus Oil Co.'s Acme 3	500	6090
General Pet. Corp., K. and H. 9	1000	6627
Richfield Oil Co., Green 6	600	6160
RICHFIELD—		
Continental Oil Co., Kraemer 5	*	5345
RINCON—		
Chanslor-Canfield Midway Oil Co., Hobson C1	600	3640
SUNSET—		
Midway-Northern Oil Co., Yellowstone 1, 7-11-23	200	1638

ARKANSAS

Company, Well and Location	Initial Production Bbls.	Depth
UNION COUNTY—		
Pure Oil Co., Gregory Estate 2, 15-17-14	500	3220
F. B. Wood Tr.'s, Turnage 1, 34-15-16	9	2058

LOUISIANA

Company, Well and Location	Initial Production Bbls.	Depth
BOSSIER PARISH—		
H. S. Goodwin, Tr.'s, McDade 2, 36-17-13	¶2	898
RICHLAND PARISH—		
Gulf, Rhymes 3, 28-17-6e	¶25	2420
WEBSTER PARISH—		
Bethany O. & G. Co., Adkins 1, 32-23-9	¶7	2687
Palmer Corp., Mixon 1, 22-21-10	¶2	4729

SOUTH LOUISIANA

Company, Well and Location	Initial Production Bbls.	Depth
EVANGELINE—		
Port City Oil Co., S.F.S. 9	45	1575
EDGERLY—		
Rex Pet. Co., La Prairie Narroni 1	50	3160
LOCKPORT—		
Vacuum-Gulf, Miller 20	580	3015
Fee B-1	560	2980

TEXAS

GULF COAST

Company, Well and Location	Initial Production Bbls.	Depth
BATSON—		
Ada Belle Oil Co., Honeymoon 119	15	415
Paraffine Oil Co., Paraffine 74	10	480
BIG CREEK—		
Gulf, T. W. Davis 30	2100	3415
BLUE RIDGE—		
Gulf, Blakely B-12	650	3250
Cullen & Lee, No. 1	650	3815
HIGH ISLAND—		
McLean Oil Co., Cade 13	*	3260
HULL—		
Texas-Vacuum, Hannah 6	*	4050
HUMBLE—		
Moody & West, Moss 1	1100	3300
ORANGE—		
Tillery Oil Co., Tasco 3	160	3900
Rex Pet. Co., Carbello 14	*	3350
PIERCE JUNCTION—		
Moody Corp., Armstrong 1	*	4680
Abercrombie & Harrison, Ritter 1	*	5500
SARATOGA—		
E. W. Skinner, Kirby 14	8	750
SOUR LAKE—		
Lake View Oil Co., Hardin County 56	18	1670
SOUTH LIBERTY—		
Sun Co., Mitchell 4	30	3475

(Continued on page 86)

The Same String of Pittsburgh Seamless Drill Pipe in Service Since April 1922

We have a report from a driller in Oklahoma about a string of Pittsburgh Seamless Drill Pipe that has been

Used in Forty-Three Wells Totaling 109,367 Feet— is Still in Service

This is one of the many bona fide reports in our files of the remarkable service of "Pittsburgh Seamless" Steel Pipe

Pittsburgh Steel Products Co.
DIVISION OF
Pittsburgh Steel Co.

PITTSBURGH · NEW YORK · DETROIT · CHICAGO · HOUSTON · TULSA

Pacific Coast Distributors
Buck & Stoddard, Los Angeles, California

For Line Pipe, Casing, Drill Pipe, Oil Well Tubing, use

PERMITS GRANTED FOR NEW WELLS

WEEKLY COMPARISON OF NEW WELLS

Following is a condensed table giving a comparison of permits or locations made for new wells during the past year in Kansas, Oklahoma, Arkansas, Louisiana, Texas, California and the Mountain States:

	Week ending July 7	Previous week	Total this month	Total this year	This week last year	This month 1927	Total same date 1927	Year total 1927
Arkansas	13	5	13	228	5	5	210	329
California	30	15	30	529	24	24	787	1,226
Louisiana	12	12	12	377	12	12	351	812
Kansas	19	15	19	556	25	25	579	972
Oklahoma	96	124	96	1,815	84	84	2,287	3,702
Texas	169	171	169	4,146	127	127	5,538	8,665
Mt. States	...	...	...	...	...	...	311	494
Totals	339	342	339	7,651	277	277	10,081	16,149

ARKANSAS

UNION COUNTY — Gilliland Oil Co., Hicks 1, 16-17-14, 536 ft s and 225 ft e of nw c ne se. Garrett & Modisette, Pyron 1, 21-17-14, 200 ft s and 165 ft w of ne c sw se. R. L. Hunt, Gregory 8, 15-17-14, 250 ft n and 250 ft e of sw c ne nw. Lion O. & R. Co., Sinclair 3, 16-17-14, nw c ne ne; Sinclair 4, 16-17-14, sw c ne ne. Lovette & Stone, Goodwin 1, 3-16-16, sw c nw sw½. Morefield & Tate, Smith 1, 6-18-13, sw c nw ne. Ohio Oil Co., Carroll Hrs. 1, 6-17-13, 200 ft s and 200 ft e of nw c sw nw; Carroll Hrs. 2, 6-17-13, 385 ft n and 330 ft e of sw c sw nw. Root Ref. Co., Ed Doss 1, 16-17-14, 150 ft s and 150 ft e of nw c w½ sw ne; M. Doss 1, 16-17-14, 150 ft s and 150 ft w of ne c nw ne; M. Doss 2, 16-17-14, 180 ft n and 150 ft w of se c nw ne; M. Doss 3, 16-17-14, 150 ft n and 150 ft e of sw c nw ne.

LOUISIANA

ACADIA PARISH—Ratliff Oil Co., Lake Charles, Arnoudet 11, 47-9s-2w, 200 ft s and 50 ft e of nw c.

DESOTO PARISH—Benson Oil & Gas Co., Shreveport, Jackson Hrs. 1, 3-10n-13w, 690 ft s and 505 ft w of ne c sw nw.

LA SALLE PARISH—Tunica Pet. Co., Shreveport, L. & A. Oil Co. 44, 16-7n-2e, 300 ft n and 300 ft e of swc se.

MOREHOUSE PARISH—J. Smylie Herkness, Bastrop, T. H. Bowles 4, 18-20n-5e, 3300 ft s and 660 ft e of nw c. Southern Carbon Co., Monroe, Tensas Delta 5, 9-20n-4e, 1914 ft n and 2006 ft w of se c.

OUACHITA PARISH—G. E. Jordan, Monroe, Wall 1, 12-18n-3e, 1707 ft n and 1495 ft e of most southerly c of sec 12.

RICHLAND PARISH — S. D. Hunter, Shreveport, McCoy B-2, 17-16n-6e, 2345 ft w and 680 ft n of se c ne; McCoy B-3, 21-16n-6e, 753 ft s and 635 ft w of ne c nw nw.

TERREBONNE PARISH — Southern Gas Co., Inc., Houma, Southdown 6, 103-17s-17e, n 76 degrees 23 minutes w 4176.5 ft from ne c.

WEBSTER PARISH—Bethany O. & G. Co., Shreveport, O'Bier 1, 31-23n-9w, 660 ft s and 346 ft w of center. Magnolia Petroleum Co., Shreveport, Oakes-Roseberry 1, 29-23n-9w, 660 ft n and 660 w of se c.

WINN PARISH—Humble O. & R. Co., Houston, Texas, Tremont Lbr. Co. 2-A, 21-10n-1w, 1650 ft e and 330 ft n of sw c.

KANSAS

COWLEY COUNTY—Krew-White Oil Co., McIrwin 1, c n l se, 4-33-5e. Hartman & Skaer, Shane 1, swc nw, 13-33-3e. Sam Elliott, Elliott 1, nwc, 21-35-5e. Lario O. & G. Co., Kent 1, ne nw sw, 24-32-3e. E. B. Shawver, Schmidt 1, nec sw, 22-31-3e.

EDWARDS COUNTY—Amerada Pet. Corp. & Wilcox O. & G. Co., Tonsil 1, c nw sw, 32-25-19w.

ELLIS COUNTY—Finney & Wenner, Freeman 1, sec sw, 24-15-20w. Labette O. & G. Co., Urban 1, ne nw nw, 19-15-16w. Janet Brown et al, Gerster 1, se sw ne, 13-13-18w. Mid-West Explo. Co., Austin 1, nec, 36-12-16w. Davis et al, Dickerson 1, swc ne, 15-12-16w.

HARVEY COUNTY—R. S. Austin et al, Neisman 1, swc, 21-24-2e.

McPHERSON COUNTY—Tatloyd O. & G. Co., Chinberg 2-A, c e l w½ sw nw, 32-18-23; Rosenberg 1, c se nw, 31-18-2w. Newman et al, Deepenbrock 1, nwc ne, 2-17-1w.

OSBORNE COUNTY—T. C. Johnson et al, Cosley 1, c nw ne, 15-8-15w.

OTTAWA COUNTY—Anderson et al, Ottawa County Bank 1, nec nw, 28-10-2w.

STEVENS COUNTY—Trees Oil Co. 1, sw ne sw, 3-35-38w.

SUMNER COUNTY—Cameron et al, Sheppard 1, sec nw, 1-32-2e.

OKLAHOMA

CARTER COUNTY—Magnolia Pet. Co., I. Bumpass 6, nwc se, 33-1s-3w. Roxana Pet. Corp., Easón 1, nw sw nw, 6-2s-3w; Lyles 3, se sw nw, 11-2s-3w. Schermerhorn et al, Lyles 4, sw se nw, 11-2s-3w. Wirt Franklin Pet. Corp., Carpenter 2, nw ne sw, 11-2s-3w.

CREEK COUNTY—R. Bailey et al, Thompson 1, nwc ne ne, 32-19-9e. Kennedy & Horner, Sapulpa 4, nwc ne sw, 24-18-11e. Dedman et al, Brown 1, swc ne ne, 13-17-9e. Henry & Avers, Harris 4, c se se, 12-17-10e. Herrod & George, Mitchell 1, nwc se sw, 12-17-11e. H. C. Wilson, Asbury 2, nec, 1-15-10e.

COTTON COUNTY—Moore et al, Moore 1, nec sw, 2-2s-10w.

GARVIN COUNTY—Magnolia Pet. Co., Cochran 3, sec ne nw, 14-1n-3w.

GRADY COUNTY—Okla. Nat. Gas Co., Sanford 4, sw ne sw, 23-5n-8w. Okla. Gas Utilities Co., School Land 3, nwc, 36-5n-8w. Watchorn O. & G. Co., Huling 3, nw sw nw, 13-4n-8w. Wrightsman Pet. Co., Short 1, c se sw, 25-4n-8w. David Malernee, Brown 1, se nw sw, 8-3n-7w.

HUGHES COUNTY—Howard Pet. Co., Harjo 1, nec sw, 25-8-10e. T. B. Slick, Epperly 1, nw ne nw, 32-6-8e.

MARSHALL COUNTY—E. L. Smith Oil Co., Null 2, swc ne, 24-5s-5e.

MUSKOGEE COUNTY—Jack Summers et al, Jefferson 2, nec sw sw ne, 33-15-15e. Hesel & McQuown, Stranks 1, swc se ne, 31-15-19e. I. W. Sterling et al, Tiger 2, nec se nw ne, 1-14-18e. Bramer et al, Callahan 1A, cel nw nw, 18-14-19e. W. L. Ransome, Robinson 1, cel nw ne, 1-13-18e. Glasco et al, Dean 1, swc ne nw, 7-13-18e.

OKMULGEE COUNTY—Kirkland & Son, Grayson 1, c se sw, 18-15-13e; Depreist 1, c ne nw, 19-15-13e. H. W. Lampton, Bell 1, nwc ne se, 20-15-13e. The Texas Co., Severs 9, nwc sw ne, 20-15-14e. J. R. Gardner, Simmer 1A, sec sw sw, 9-14-13e. J. E. Wallace, Colbert 1, sec sw ne, 14-14-14e. E. J. Lambert, Steiger 1, c nw sw, 7-13-15e. Harsha & Delaney, Bruner 3, sec sw ne, 34-16-14e. Kingwood Oil Co., Bright 1, sec sw se, 29-15-12e. B. Martin et al, Hawkins 1A, nec nw nw, 9-11-12e.

OSAGE COUNTY—Lewis Prod. Co. et al 1, nwc, 23-26-6e. Continental Oil Co. 1, swc se, 32-24-8e. Branstetter & Winemiller 1, swc nw, 14-22-11e. Osage Oil Synd. 13, nec sw sw nw, 7-21-9e. Clint Moore Estate & Ohio Osage Oil Co. 3, csl n½ sw, 9-21-9e; 4, cnl s½ sw, 9-21-9e; 5, nwc sw ne sw, 9-21-9e.

PAYNE COUNTY—Gardner Pet. Co. et al, Falk 1, c ne se, 12-19-1w.

PONTOTOC COUNTY—Westheimer & Daube, Futeschcha 1, sw se nw, 15-4n-7e. O. K. Portland Cement Co., Mathews 2, c nw sw, 24-4n-7e.

POTTAWATOMIE COUNTY—Indep. O. & G. Co., Deckard 2, se ne ne, 19-7-4e. Healdton O. & G. Co., Thompson 1, sw nw nw, 20-7-4e. Interocean Oil Co., McGee 2, sw nw se, 23-7-4e. Westheimer & Daube, Freid 4, sec nw, 24-7-4e. Gypsy Oil Co., Collins 1, nw ne se, 25-7-4e. Indep. O. & G. Co., Youts 5, sw se se, 19-7-5e. Magnolia Pet. Co., Hembree 4, swc se, 19-7-5e. Sinclair O. & G. Co., Kitchee 2, swc, 19-7-4e. T. B. Slick, Hembree 4, se sw se, 19-7-5e; Youts 2, sec sw, 19-7-5e. Magnolia Pet. Co., Tull Fyke 1, swc nw, 20-7-5e; Youts 1, nwc sw, 20-7-5e. Gypsy Oil Co., Pamahma 1, nw ne ne, 30-7-5e. Phillips Pet. Co., Stahl 1, nwc ne, 30-7-5e; Stahl 2, ne nw ne, 30-7-5e. T. B. Slick, Lynn 1, nec nw, 30-7-5e.

SEMINOLE COUNTY—Burke-Greis, Cyrus 1, se ne nw, 13-9-7e. W. R. Ramsey, Bowlegs 3, c sw nw, 31-8-8e. Mid-Continent Pet. Corp., Harjo 2, ne se ne, 14-5-7e. W. R. Ramsey, Factor 1, nw ne ne, 25-5-7e. Mid-Continent Pet. Corp., Fleet 14, sw nw se, 7-5-8e. Sinclair O. & G. Co., Amos C2, se ne sw, 7-5-8e. Pure Oil Co., Lindley 1, se sw se, 18-8-5e. The Texas Co., Brooks 1, swc nw, 25-8-6e. W. B. Pine, Hoyecha 3, ne sw se, 26-8-6e; Hoyecha 4, sw ne se, 26-8-6e; Hoyecha 5, se ne se, 26-8-6e. Mid-Continent Pet. Corp., Bruner 3, sw se se, 11-7-6e. Blackwell O. & G. Co., Talley 2, swc, 14-7-6e. Magnolia Pet. Corp., Harjo 2A, nw ne ne, 14-7-6e. Barnsdall Oil Co., Williams 2, se nw ne, 15-7-6e. Omar Oil Co. & Commercial Pet. Co., Patton 1, nw ne sw, 31-7-6e.

STEPHENS COUNTY—Magnolia Pet. Co., Crews 1, sw ne ne, 12-1s-4w; Hanson 1, sec nw, 12-1s-4w. Clark & Cowden, Davidson 1, ne nw sw, 13-1s-4w. Wirt Franklin Pet. Corp., Apple-Franklin 8, nw ne ne, 24-1s-4w. Magnolia Pet. Co., Thomas 1, nec se se, 25-1n-9w. Clark & Cowden, Williams 2, nwc se, 31-1n-8w. Pearce & Brown, Cummings 1A, nec ne se nw, 27-1s-8w. Magnolia Pet. Co., Burke 9, nwc se nw ne, 34-1s-8w. Petroleum Producers, Bond 6, sec nw sw, 7-2s-7w. Owen & Wood, Massey 11, nec se nw, 12-2s-8w. Pace et al, Wilson 8, nw se ne, 12-2s-8w.

TULSA COUNTY—Hall et al, Hooks 1, cel ne nw, 33-19-14e. Thompson & Black, Jenkins 5, swc nw, 10-16-12e; Bartholf 5, cnl sw sw, 5-16-13e. W. B. Pine, Davis 1A, csl se se, 9-16-14e.

WAGONER COUNTY—A. Chapman, Hosmer 2, nec se se, 21-18-17e. J. L. Dixon, Young 2, nec nw, 26-18-17e.

TEXAS

ARCHER COUNTY—J. B. Alford, Dallas, Anderson 1, S 38, B 4, C&P sur, 150 ft from n and w lines.

AUSTIN COUNTY—Humble O. & R. Co., Houston, Gutowsky 3, W. C. White sur, 2984 ft from ne and 100 ft from se line.

BROWN COUNTY — Charter Oil Co., Brownwood, Byler 7, No. 43 T&NO Ry sur, 150 ft from n and 568 ft from e line. Royal Pet. Co., Brownwood, Etheridge 10, KCSL sur, 660 ft from e and 620 ft from s line. L. G. Bradstreet, Ft. Worth, Eubank 4, No. 141 R. Mitchell sur, north of No. 3; Stout 13, 750 ft from

Where Rodwear *and* Corrosion make short work of Ordinary Tubing

① *Cheaper Metal*

② *Poor Wrought Iron*

Galvanized Tubing

Byers Galvanized tubing has shown itself so vastly superior to other galvanized tubing in nearly every field where excessive corrosion is experienced, that it is being rapidly adopted by all those who have watched and compared its service with that of other kinds of tubing.

Rods Nos. 1 and 2 were in service in the same location—two bottom joints—in the same well, for the same length of time. Rod No. 1 was of ordinary metal, Rod No. 2 of a poor quality wrought iron, probably "busheled" from a mixture of steel and wrought iron scrap. While both were severely attacked by corrosion, Rod No. 1 suffered nearly twice as heavy a loss as No. 2. The tubing, of ordinary quality, had to be renewed at frequent intervals.

If accounts were kept of the cost of using rods and tubing not made of genuine wrought iron, there would be a heavy deficit on the side of lower priced tubing and pump rods. Byers tubing costs a little more at first, being made of genuine wrought iron, but in the end pays out handsomely.

Byers tubing not only resists corrosion but rod-wear. The frictional heat generated by the rods is very much smaller where wrought iron tubing is used, and crystallization and wear are correspondingly reduced.

A. M. BYERS COMPANY
ESTABLISHED 1864 PITTSBURGH, PA.

BYERS TUBING
GENUINE WROUGHT IRON

Distributors

Jarecki Mfg. Co. Oil Well Supply Co.
International Supply Co.

n and 1050 ft from w line. Brown & Midsun Oil Corp., Coleman, Lewis 1, No. 624 J. Kinney sur, 150 ft from n and w lines; 2, same sur, 300 ft e of No. 1. J. E. Whiteside, Brownwood, Boysen 4, No. 7 ET Ry sur. Cranfill & Reynolds, Cisco, Graham 1, No. 137 J. Brown sur, 3050 ft from w and 1350 ft from s line. Conway Bros. & Wright, Ranger, Newton 2, S 149, R. M. Miller sur, 150 ft from n and w lines. G. P. Mitcham, Cisco, Thomason 1, J. J. Clelland sur; Keeler 2, J. Kinney sur, 1123 ft from n and 150 ft from e line. Midland Oil Co., Ft. Worth, Butler 8, No. 782 T. Benson sur, 150 ft from s and 278 ft e of No. 6; Hickman 3, No. 801 J. McGloin sur, 150 ft from s and e lines. Humble O. & R. Co., Cisco, Hickman 1, F. M. Kinsey sur, 150 ft from n and e lines. W. H. Hammon et al, Wichita Falls, Curry 3, No. 624 J. Kinney sur, south of No. 5. Cranfill & Reynolds, Cisco, Whitehead 1, M. Brown sur, 150 from n and 160 ft from w line. Midland Oil Co., Ft. Worth, Hickman 2, No. 801 J. McGloin sur, 400 ft from n and 150 ft from e line. Humble O. & R. Co., Cisco, Kilgore B-1, J. Delgado sur, 200 ft from s and w lines. Kone Prod. Co., Cisco, Hickman B-12, T. Benson sur, 300 ft s of No. 11; Hickman C-5, T. Benson sur, 300 ft s of No. 3; C-6, 300 ft s of No. 4. Humble O. & R. Co., Cisco, Byler 5, S 43, T&NO sur, 300 ft w of No. 4. Usona Prod. Co., Dallas, Miers 1, No. 3 SA&MG sur, 156 ft from w and 996 ft from s line. H. P. Evans, Brownwood, Martin 1, S 11, HT&B sur, 1050 ft from w and 150 ft from s line. Henshaw Oil Corp., San Angelo, Pentecost 1, No. 282 Jones sur, 150 ft from n and w lines. W. T. Daniel et al, Brownwood, Thomason 1, No. 356 J. Berry sur, 150 ft from s and e lines. Midland Oil Co., Ft. Worth, Hickman 2, B 801, J. McGloin sur, 400 ft from n and 150 ft from e line. Roxana Pet. Corp., Dallas, Smith 16, S 1, SA&MG sur, 165 ft from n and 198 ft from w line. Cranfill & Reynolds, Cisco, Eubanks 8, No. 414 R. Mitchell sur, 858 ft from n and 150 ft from w line; 9, 300 ft s of No. 7. Young Bros. & Alexander, Inc., Fort Worth, Hickman 1, No. 783 T. Benson sur, 150 ft from n and e lines. Barnhill & Palmer, Cisco, Wood 1, P. Gwiger sur, 450 ft from s and 150 ft from e line.

BEXAR COUNTY—Schimmel Prod. Corp., Fort Worth, Tick 8, No. 265 J. Wilson sur, 250 ft from e and 175 ft from s line; 9, 720 ft n of No. 8.

CALLAHAN COUNTY—Prairie O. & G. Co., Ranger, Gillett 1, G. M. Vigal sur, 450 ft from w and 125 ft from s line; Sawyer 1, G. M. Vigal sur, 819 ft from e and 450 ft from s line. E. V. Richard, Cisco, Gilliland 1, S 131, BBB& G sur, 150 ft from s and e lines. Turley Oil Corp., Dallas, Parks 4, 3194 TE&L sur, 3000 ft from e and 1200 ft from s line. R. G. Baker, Fort Worth, Wagley 6, 2969 TE&&L sur, 150 ft from w and 450 ft from s line. Dickey Oil Co., Cisco, Williams 1, S 25, D&D Asy sur, 150 ft from s and e lines. St. Mary's O. & &G. Co., Moran, Pruett 8, 2287 TE&L sur, 660 ft e of No. 5.

CALDWELL COUNTY—Roxana Pet. Corp., Dallas, Jolly 2, McFerris & Crenshaw sur. W. H. Kemrow, San Antonio, Schawe Jr. 2, T. Maxwell sur, 350 ft from s and w lines. Magnolia Pet. Co., Dallas, Branyon 7, N. Reaville sur, 150 ft from ne and nw lines.

CHEROKEE COUNTY—Nichols & Rowan Oil Co., Fort Worth, Schleicher 1, A. C. Walters sur, 150 tf from s and 500 ft from w line.

COLEMAN COUNTY—Charter Oil Co., Brownwood, Crump 2, No. 665 J. Scott sur, 150 ft from s and w lines. A. L. Derby, Wichita, Kas., Jennings 3, B 94, A. S. Lipscomb sur, 384 ft n of No. 4; 3, 400 ft e of No. 4; 4, 150 ft from s and 180 ft from w line. Archie Shaw, Burkett, Burns 44, No. 168 A. Wickson sur, 1561 ft from n and 750 ft from w line.

CRANE COUNTY—Church, Weekly & Fields, Fort Worth, Duell 2, S 39, B 30, Univ. Lands sur, 300 ft from s and w lines; Lasseter 2, S 34, B 30, Univ. Lands sur, 1650 ft from w and 990 ft from s line. Gulf Prod. Co., Fort Worth, McElroy 53, S 201, B F, CCSD&RG NG sur, 660 ft w of No. 51

CROCKETT COUNTY—California Co., Colorado, Powell 2, S 62, B BB, GC&SF sur.

CARSON COUNTY—Ryan Consolidated Pet. Corp., Bartlesville, Okla., Black 1, S 111, B 4, I&GN sur, 990 ft from n and w lines.

COMANCHE COUNTY—Mintex Corp., Ft. Worth, Elmore 1, S 45, D&D Asy sur, 400 ft from n and w lines.

DUVAL COUNTY—T. P. Morgan, San Antonio, King & Harper 1, No. 323 sur, 150 ft from n and w lines.

EASTLAND COUNTY — Mook-Texas Oil Co., Fort Worth, Williamson 2, W. Van Norman sur, 630 ft from n and 150 ft from w line; 1, 180 ft from n and 150 ft from w line. Prairie O. & G. Co., Ranger, Earnest 6, E. Finley sur, 1200 ft from e and 1096 ft from n line. Amerada Pet. Corp., Cisco, Shoemaker 1, T. Leahy sur, 2100 ft from w and 150 ft from s line. Chestnut & Smith Corp., Breckenridge, Mussman 1, J. S Sapp sur, 990 ft from n and 330 ft from e line. Root & Rhodes, Eastland, Henning 2, Van Norman sur, 600 ft s of No. 1; 3, 600 ft sw of No. 2. Panhandle Ref. Co., Wichita Falls, Webb 2, E. Finley sur, 1600 ft from e and 900 ft from s line. Mook-Texas Oil Co., Fort Worth, Casey B4, W. Van Norman sur, 200 ft from s and 190 ft from w line. Wiley Harbin, Eastland, Turner 1, S 26, B 2, H&TC sur, 150 ft from w and 450 ft from n line.

FISHER COUNTY — Roeser & Pendleton Inc., Fort Worth, Decker 1, S 79, B 1, H&TC sur, 1642 ft from s and 330 ft from e line; Decker 1, S 8, B R, W. E. Richardson sur.

FORT BEND COUNTY—Gulf Prod. Co., Houston, Farmer 1, J. Scott sur, 100 ft from n and w lines. Navarro Oil Co., Houston, Hausler 1, B 27, B. Wickson sur, east central.

GRAY COUNTY—Texas Co., Wichita Falls, Shaw 1, S 5, B 1, ACH&B sur, 330 ft from w and 110 ft from s line. Skelly Oil Co., Tulsa, Okla., Schafer 9, S 87, B B4, I&GN sur, 1265 ft s No. 9. Magnolia Pet. Co., Dallas, Fee 3, S 11, B 3, I&GN sur, se corner. Phillips Pet. Corp., Bartlesville, Okla., John 2,, S 87, B 3, I&GN sur, 330 ft from s and 992 ft from e line.

GLASSCOCK COUNTY—Magnolia Pet. Co., Dallas, Roberts 9, S 136, B 29, W&NW sur, 330 ft from n and e lines. Evans Oil Co., San Antonio, Roberts 1, S 157, B 29, W&NW sur, 150 ft from n and w lines; 2, 150 ft from n and e lines.

GALVESTON COUNTY—Gulf Prod. Co., Houston, Spencer 1, M. Dunman sur, 75 ft from n and 92 fe from w line.

GUADALUPE COUNTY — Magnolia Pet. Co., Dallas, Lockman 1, Guadalupe College sur.

HUTCHINSON COUNTY — Phillips Pet. Corp., Bartlesville, Okla., Lenix 1, S 13, B Y, M&B sur, 330 ft from n and e lines; 2, 330 ft w of center of e line; Grimes 1, S 22, B Y, A&B sur, 330 ft from n and 142 ft from e line.

HOWARD COUNTY—Sprague Oil Co., Ardmore, Okla., Roberts 1, S 156, B 29, W&NW sur, 330 ft from n and w lines. Marland Oil Co., Fort Worth, Clay F1, S 138, B 29, W& NW sur, 250 ft from n and e lines. Godley O. & G. Co., Dallas, Hooks 10, S 140, B 29, W&NW sur, 200 ft from n and 1400 ft from w line.

HARDIN COUNTY — Paraffine Oil Co., Houston, Fee 74, 318 ft from w and 40 ft from s line.

HARRIS COUNTY—W. M. Gould, Houston, Sanders 1, H. Sanders sur, 1900 ft from e and 200 ft from s line.

JIM HOGG COUNTY—Magnolia Pet. Co., Dallas, Garza 21, No. 291 sur. T. P. Morgan, San Antonio, Hinnant 1, B 19, Las Animas sur, 150 ft from n and e lines.

JEFFERSON COUNTY—Gulf Prod. Co., Houston, Gladys 231, J. A. Veatch sur, ne of No. 178. Yount-Lee Oil Co., Beaumont, McFaddin 75, B 28, P. Humphreys sur, 108 ft from w and 313 ft from n line.

KLEBERG COUNTY—Humble O. & R. Co., Houston, Kleberg 7, S 40, B 7, KT&I sur, 1044 ft from s and e lines.

LIBERTY COUNTY—Gulf Prod. Co., Houston, Phoenix 61, J. Decore sur, 755 ft from e and 1395 ft from n line.

MONTAGUE COUNTY — Arco Oil Co., Wichita Falls, Loy 7, W. Donohoo sur, 450 ft from w and 150 ft from n line. Bridwell Oil Co., Wichita Falls, Salmon 1, W. P. Zuber sur, 650 ft from w and 200 ft from n line. Texas Co., Wichita Falls, Maddox 14, H. S. Arnold sur, 300 ft e of No. 12.

NAVARRO COUNTY —Wm. Clarkson Jr., Corsicana, Bradley Bros. 13, RCSL sur, 1098 ft from n and 1050 ft from w line.

PALO PINTO COUNTY—TP Coal & Oil Co., Fort Worth, Stuart 158, S 71, B 4, T&P sur, 3225 ft from s and 2300 ft from e line.

POTTER COUNTY—Amarillo Oil Co., Amarillo, Bush 1, S 19, B 6, BS&F sur, 300 ft from w and 270 ft from s line.

PECOS COUNTY—Mid-Kansas O. & G. Co., Tulsa, Yates F-3, S 63, B I, I&GN sur, 1600 ft from n and 3995 ft from w line; Yates G-4, S 34¼, B 194, GC&SF sur, 1448 ft from n and 871 ft from e line; Yates H-3, S 32, B 194, GC&SF sur, 250 ft from n and 2530 ft from w line; Yates A-25, I. G. Yates sur, east central part of lease; Smith 18, C 33, B 194, GC&SF sur, 1296 ft from w and 1390 ft from s line.

SHACKELFORD COUNTY—Roeser & Pendleton, Inc., Fort Worth, Cook A-72, S 60, ET Ry sur, 150 ft from n and e lines. S. G. McClintock, Albany, Crowley 1, 819 TE&L sur, 155 ft from ne and 198 ft from se line. Scott & Walker, Albany, Huskey 24, 548 TE&L sur, 500 ft s of No. 20. Loggie & Arendt Oil Co., Albany, Plach 2B, 502 TE&L sur, 150 ft from sw and 750 ft from nw line. Less Combest, Mineral Wells, Broyles 3, S 7, LAL sur, 150 ft from w and 160 ft from s line. Roeser & Pendleton, Inc., Fort Worth, Cook A-5, S 62, ET Ry sur, 2299 ft from n and 220 ft from w line. St. Mary's O. & &G. Co., Moran, Broyles 1, S 7, LAL sur, 150 ft from n and 450 ft from e line. Texas Consolidated Oil Co., Breckenridge, Childers 1, S 399, TE&L sur, 800 ft from e and 150 ft from s line.

STEPHENS COUNTY—Donley & Chastain, Ranger, Ellis 1, O. Bailey sur, 340 ft from w and 330 ft from s line.

THROCKMORTON COUNTY — Woodson Oil Co., Woodson, Overcash 9, 960 TE&L sur, 466 ft from s and w lines.

TAYLOR COUNTY—C. C. Cady, Moran, Burns 3, S 68, LAL sur, 450 ft from n and w lines.

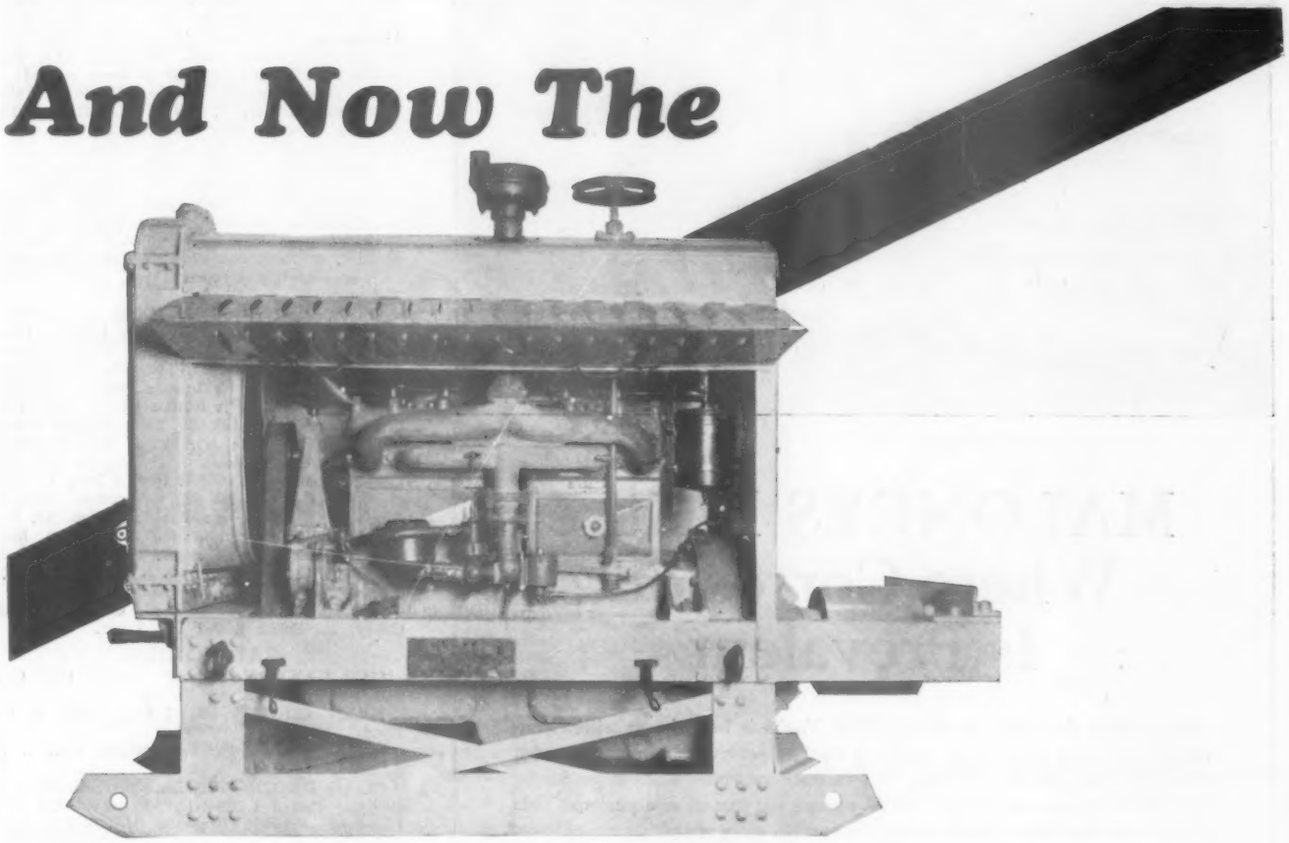
TRAVIS COUNTY—Mid-Kansas O. & G. Co., Tulsa, Johnson 1, S 36, W. Wells sur, 200 ft from w and 475 ft from s line.

VICTORIA COUNTY—Houston Oil Co., Houston, Kyle 1, Dimmitt sur, 550 ft from e and 1010 ft from s line.

WICHITA COUNTY—R. P. Dorian, Wichita Falls, Morgan 1, 818 TE&L sur, se corner. J. H. Cable et al, Wichita Falls, Parker 1, B 4, J. McCool sur, 150 ft from e and 2490 ft from s line. Hammon & Garrett, Wichita Falls, McCarty 1, W. R. Eaves sur, 150 ft from n and e lines. E. L. Gallinger, Electra, Deisenfels 1, B 213, Wag. Col. sur, 150 ft from s and 450 ft from e line. W. B. Omohundro, Wichita Falls, Pace 13, R. J. Scott sur, 300 ft n of No. 12. G. T. Kimbell & Bostic, Burkburnett, Denny 5, B 27, Cowherd sur, 780 ft from n and 1400 ft from e line. A. R. Jameson, Wichita Falls, Cole 5, B 10, PPCSL sur, 300 ft s No. 4; 6, 309 ft s of No. 5. H. Spencer, Burkburnett, George 5, J. W. sur, 450 ft from n and 750 ft from e line. Magnolia Pet. Co., Dallas, Pace 1, J. Scott sur, 150 ft from n and w lines. Atlas Prod. Co., Burkburnett, Roller 14, CT Ry sur. Hammon & &Garrett, Wichita Falls, Mitchell 2, J. T. Lewis sur, 2145 ft from n and 150 ft from w line. E. J. Stump & Co., Wichita Falls, Chilson 1, B 21, DCSL sur, 150 ft from n and e lines.

WILBARGER COUNTY — Phillips Pet. Corp., Bartlesville, Okla., Waggoner R5, Sec. 45, blk 4, H&TC sur, 330 ft from s and e lines. Consolidated Oil Co., Wichita Falls, Waggoner 4, Sec. 5, blk 5, H&TC sur, 300 ft w of No. 2; 5, 352 ft w of No. 4. Barkley & Meadows, Wichita Falls, Waggoner D3, Sec. 5, blk 5, H&TC sur, 300 ft e of No. 1. Martin & Hamilton, Wichita Falls, Waggoner B5, Sec. 5, blk 5, H&TC sur, north of No. 2. Waggoner Ref. Co., Electra, Waggoner H6, Sec. 24, blk 4, H&TV sur, 205 ft from s and w lines; H5, 455 ft s of No. 1; H4, 403 ft w of No. 2; H3, 308 ft e of No. 1. W. J. Grisham, Wichita Falls, Fee 1, Sec. 50, blk 4, H&TC sur, 200 ft from s and w lines. Hamilton & Martin, Wichita Falls, Waggoner B3, Sec. 5, blk 5, H&TC sur, 300 ft w of No. 1; B2, 300 ft n of No. 1. Texas Co., Wichita Falls, Waggoner E8, Sec. 24, blk 4, H&TC sur, 305 ft n of No. 5; E9, 305 ft n of No. 8. Barkley & Meadows, Wichita Falls, Waggoner C3, Sec. 5, blk 5, H&TC sur, 300 ft w of No. 2. Texas Co., Wichita Falls, Waggoner E10, Sec. 24, blk 4, H&TC sur, 455 ft s of

And Now The



Climax Spudder Engine

This 65 horsepower Climax engine has the "stuff" to handle all spudder drilling. It has the power to pull the bailer faster than the ordinary tractor and can pull it slower when necessary without stalling. In addition, it is adaptable to a wide variety of uses. You can hook it up to a water pump, a gathering pump, an electric power plant, a hoist, etc. It comes equipped with outboard bearing, natural gas and gasoline carburetor, telegraph control, eye bolts and turnbuckles for securing to sills. These and many more features we haven't the space to tell you about here make it the handy engine for all emergency work around your lease. Wire for details.

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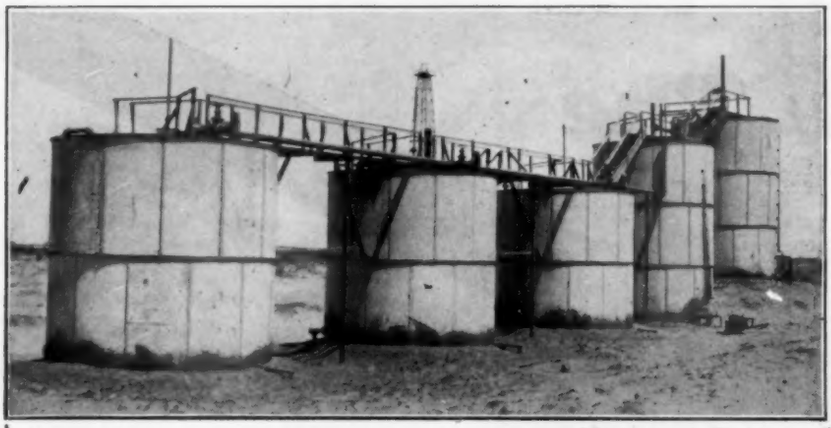


MALONEYS Endure Where Corrosion Is Prevalent

The extreme durability of MALONEY Tanks is best shown where conditions are most difficult for ordinary steel to survive. Along the coast, where salt air induces corrosion, and in districts where acids cause havoc to oil field equipment, MALONEYS endure for remarkable periods. This exceptional durability results from the use in their manufacture of rust-resisting Keystone Copper Steel, which is long lived sheet steel.

Other MALONEY features include: our patented "crimp" at seams and joints; our specially developed gasketing and our Gasc cement; rigid steel channels used to reinforce all seams; special bolts of 90,000 pounds tensile strength; large cleaning out plates set flush with bottoms; Maloney special pearl gray paint; and the best valve and deck equipment on the market.

The above photo shows two 1000 bbl., one 1500 bbl., and two 750 bbl. special flow Maloneys in the Pierce Junction field, near Houston, Texas. Erected by Peer Bolted Steel Tank Co., Distributors, Houston District.

"Alone in Quality"

MALONEY TANK MFG. CO.
TULSA, OKLA., U. S. A.

Distributors at All Principal Petroleum Points

Sizes: 12 to 10,000 Barrels

Packed in Steel-Bound Crates for Export

Howell Aluminum "3-in-1" Vacuum Pressure Valve and Thief-Hatch —The BEST and LATEST Deck Equipment—POSITIVE Safety

MADE OF KEYSTONE COPPER STEEL — MALONEY PATENTED BOLTED COPPER-STEEL TANKS — MADE OF KEYSTONE COPPER STEEL

MALONEY
"ALONE"

No. 4; E11, 350 ft n of No. 6; E12, 410 ft e of No. 7; Waggoner 357, Sec. 33, blk 4, H&TV sur, 327 ft e of No. 345. Martin & Hamilton, Wichita Falls, Waggoner A3, Sec. 5, blk 5, H&TC sur, 150 ft from n and w lines. Consolidated Oil Co., Wichita Falls, Waggoner 6, Sec. 5, blk 5, H&TC sur, 150 ft from n and e lines; Waggoner 1, Sec. 16, blk 5, H&TC sur, 1866 ft from n and w lines; Waggoner 1, T. D. Purnell sur, 150 ft from s and e lines; Waggoner 1, Sec. 35, blk 4, H&TC sur, 150 ft from s and w lines. Martin & Hamilton, Wichita Falls, Waggoner B4, Sec. 5, blk 5, H&TC sur, west of No. 3. Barkley & Meadows, Wichita Falls, Waggoner D4, Sec. 5, blk 5, H&TC sur, 320 ft n of No. 2.

WINKLER COUNTY—Dixie & Southern Crude Oil Pur. Co., Shreveport, La., I. Hendrick 2, Sec. 34, blk 26, 330 ft from s and w lines; I. Hendrick M22, Sec. 33, blk 26, 330 ft from e and 990 ft from s line; M21, 2145 ft from n and 1650 ft from e line; T. G. Hendrick B2, Sec. 35, blk B5, 2310 ft from n and 990 ft from e line; B1, 990 ft from n and e lines; T. G. Hendrick F1, Sec. 40, blk B5, 2310 ft from e and 1650 ft from s line; I. Hendrick T1, Sec. 34, blk 26, sw corner. Roxana Pet. Corp., Dallas, Hendrick A6, Sec. 45, blk 26, 440 ft from n and 330 ft from w line. Prairie O. & G. Co., Ranger, T. G. Hendrick 5, Sec. 40, blk 26, 330 ft from w and 440 ft from s line.

YOUNG COUNTY—E. G. Christie et al, Olney, Dunnigan 1, 157 TE&I sur.

CALIFORNIA

CAT CANYON—Palmer Union Oil Co., Stendel 20, 30-9-32.

KERN COUNTY—Shell Co., Glide 2, 15-27-28.

INGLEWOOD—Pacific National Co., 6, 7-2-14.

LONG BEACH—The Texas Co., Goddard 2, 29-4-12; Perrin 2, 29-4-12. Richfield Oil Co., Haas 18, 30-4-12; Freeman 5, 29-4-12; Connett 2, 28-4-12; R. C. 9, 19-4-12; F. W. Combs 9, 30-4-12. Western O. & R. Co. and Olympic Ref. Co., 14, 19-4-12. Bush-Voorhis Oil Co., 24, 19-4-12. Continental Oil Co., Young 1, 19-4-12; Denio 1, 24-4-13. Dabney-Johnston Oil Corp., 15, 19-4-12. Graham-Loftus Oil Co., Lightburn 4, 19-4-12. Universal Consolidated Oil Co., French 1, 28-4-12. Shell Co., C. H. C. 7, 29-4-12.

LOS ANGELES COUNTY—Russell Oil Co., 2, 25-3-17.

MIDWAY—Lakeview Oil and Ref. Co., M. F. 9, 4-11-23. Chanslor-Candfield Midway Oil Co., 84, 8-32-23. Standard Oil Co., 83, 19-31-24.

MT. POSO—The Texas Co., Glide 2, 15-27-28; Glide 2-3, 15-27-28.

POTRERO—Associated Oil Co., P. S. 1, 34-2-14.

RINCON—Chanslor-Canfield Midway Oil Co., Hobson B-3, 17-3-24.

SAN BENITO COUNTY—Associates Pet. Corp., 2, 5-19-10.

SOUTH MOUNTAIN—Oak Ridge Oil Co., Willard 24, 18-3-20.

VENTURA COUNTY—Standard Oil Co., Saticoy-Citrus 4, 15-2-22.

Elk County, Kansas

Wichita, Kansas. — Minnehoma Oil Company and Murphy Oil Company's Ferguson 2, in the northwest of the southwest of Section 3-31s-8e, in the Grenola district of Elk County, was estimated good for 700 barrels of 36 gravity oil July 4, from 19-18-34 feet in the Oswego lime.

This discovery opens Elk County's biggest production and a new wildcat pool as far as pay of this size is concerned. Prairie Pipe Line Company was running a line from Porter field on the north to take the oil. About 10 miles east is gas production near Moline. The new strike is just east of the Cowley County line, and is due to result in considerable drilling development in this area.

Tested to withhold 2,000 pounds water pressure

In one instance a preventer supported 72,000 pounds of casing, and at the same time held a gauged well pressure of 1,680 pounds.

A C-I-W BLOWOUT PREVENTER
Is Insurance for Your Well

Protect your hole, your men and your equipment by installing a C-I-W Blowout Preventer on your well. You can drill through it or use it on the manifold to bring the well in.

It screws on the last joint of casing and the openings are large enough to take same size drill as the casing allows. Universal Joints permit closing at any desired angle from well.

OIL WELL SUPPLIES

BAILER PARTS
BELL NIPPLES
CASING CLAMPS
CASING SHOES
DRILL COLLARS
FISH TAIL BITS
PUMP REPAIR PARTS
ROTARY SHOES
STEEL BUSHINGS
CHOKER NIPPLES

FISHING TOOLS

We carry in stock various fishing tools, such as spears, overshots, taper caps, etc., and are prepared to make any special tools you may require for your particular job.

SPECIALTIES

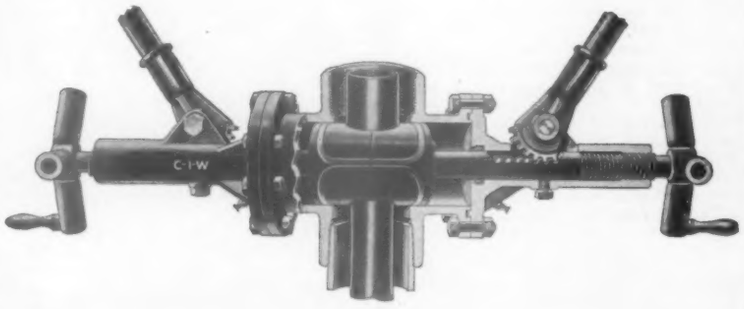
SUCKER ROD SWIVELS
CANVAS PACKERS
CORE BARRELS
LEAD SEALS
MILLING TOOLS
SAND PUMPS
PIPE PERFORATORS
SPECIAL SET SHOES
SAND SAMPLING TOOLS
ROPE PACKERS

To run tubing Under Pressure use The C-I-W TUBING CONTROL HEAD

With the C-I-W Tubing Control Head, you have absolute control while running tubing under pressure. Lever-jacks allow quick and tight packing of the rams around the tubing when desired. Extra lock screws are provided to securely lock rams.

Rams are equipped with our patented rubber packing that becomes tighter as the pressure increases.

Top of Control Head is threaded to receive tubing slip and spider.



CAMERON IRON WORKS

Manufacturers of OIL WELL SUPPLIES AND FISHING TOOLS

HOUSTON, TEXAS

Say you saw it in The OIL WEEKLY

WILDCATS FROM ALL SECTIONS

NORTHERN CALIFORNIA

KERN COUNTY

ARVIN—Texas Co.'s Pauly 1, 22-32-29, dr shale 3131 ft.

BAKERSFIELD—Pacific Eastern Prod. Co.'s KCL 1, 6-30-28, dr oil sand 4195 ft.

BELRIDGE—Zurich Oil Co.'s 1, 18-28-22, sd 2790 ft.

BUTTONWILLOW — Milham Explo. Co.'s Hulme 1, 8-28-23, 11-inch cas cemt. 2450 ft. Doheny-Stone Drill Corp.'s Salisbury 1, 7-29-24, deepening from 4280 ft. Southern California Gas Co.'s 1, 4-28-23, swabbing 4250 ft.

COMANCHE POINT — W. W. Stabler's Tejon 1, 23-32-29, bailing sand 2630 ft.

DELANO—E. C. Johnson's 1, 33-25-27, sd 2070 ft.

EDISON—General Pet. Corp.'s Kerwin 1, 5-30-29, plugged to 3945 ft, td 6025 ft. Midway Northern Oil Co.'s 1, 29-29-30, dr shale 3575 ft.

GOULD HILLS—Bomke and Ball's Larson 1, 19-29-20, dr brown shale 1720 ft. Cymric Oil Co.'s Porter 3, 36-28-20, dr shale 400 ft. Exeter Oil Co.'s 2, 1-29-20, ready to sp.

McFARLAND—General Pet. Corp.'s Stiles 1, 35-25-25, dr shale and shell 5435 ft.

McKITTRICK—Ozena Oil Co.'s 1, 20-30-22, dr shale 2496 ft. J. F. Harrison's 7, 20-30-22, dr sand 800 ft.

SHAFTER—North American Royalties' 1, 8-28-25, running 15½-inch casing 865 ft.

SEMITROPIC—Richfield Oil Co.'s 1, 21-26-22, co 1620 ft, td 1840 ft.

WASCO—Main Oil Co.'s 2, 28-27-24, will deepen from 5275 ft.

SANTA BARBARA COUNTY

ELWOOD—Barnsdall's Bell 1, 34-5-29, dr shale 2905 ft.

GOLETA—J. J. Rekar's Pa Patera 1, sd 2180 ft.

SANTA BARBARA — Channel O. & Dev. Co.'s 1, 29-4-27, deepening from 6025 ft. Tepusquet Oil Co.'s 1, 3-9-32, dr shale 2466 ft.

SUMMERLAND — Summerland Oil Co.'s Becker 1, sd 3045 ft.

VENTURA COUNTY

BARDSDALE—Triple A Investment Co.'s Elkins 1, 5-3-19, dr sandy shale 2484 ft.

CAMARILLO—American Oil Co.'s 1, 33-2-20, dr 312 ft.

FILLMORE—Henry Demound's 1, 19-4-20, setting 4¾-inch cas 300 ft. Sespe Oil Co.'s 1, sd 4000 ft.

OJAI—Continental's Fox 1M, 21-4-22, dr shale 1026 ft; Thompson 1, dr shale 975 ft. J. W. Hackworth's McDonald 1, 11-4-23, sd 2215 ft.

OXNARD—Shell's Grub 1, 22-2-22, coring 3757 ft; Lambert 1, 22-2-22, sd 1650 ft.

PIRU—Petroleum Securities' Diablo 1, 26-5-10, dr gray sand 5175 ft.

RINCON—Scott Pet. Co.'s 1, 35-4-25, dr out cmt. 5055 ft.

SANTA PAULA — San Pedro-Point Fermin Synd.'s 1, 13-4-21, sd 590 ft, td 600 ft.

SATICOY—Standard's Citrus 4, 1-2-22, dr 200 ft.

SIMI—Emma F. Exline's Seaton 1, 32-5-21, sd 1540 ft. E. A. Parkford's Lloyd 1, sd 4000 ft. Shell's Berylwood 1, 32-3-20, fsh 7210 ft; Strathern 1, 6-2-18, oil and gas showings above plug at 2540 ft, td 5290 ft.

SOUTH MOUNTAIN — Ring Pet. Corp.'s Converse 1, oil sand 4330 ft.

VENTURA—Star Pet. Corp.'s Canet 1A, 13-3-23, 8⅝-inch cas cemt. 5947 ft.

MISCELLANEOUS

FRESNO COUNTY — Fresno-Madera Oil Co.'s 1, 18-12-21, dr sand 4186 ft. Superior Oil Co.'s 1, 18-21-17, rig.

KINGS COUNTY—Milham Explo. Co.'s Elliott 1, 2-22-17, 6⅝-inch cas cemt. 6320 ft, td 7236 ft. J. E. O'Donnell's 1, 27-19-19, new lcn.

MADERA COUNTY — Los Angeles-Madera Synd.'s 1, 21-10-17, sd 2355 ft.

MONTEREY COUNTY—Marland's Naciemento 1, 32-24-11, dr shale 3845 ft.

SAN LUIS OBISPO COUNTY — Indian Dome Oil Co.'s 1, 25-31-12, sd 2740 ft. North Star Oil Co.'s 1, 5-32-13, co 1300 ft. Panorama Oil Co.'s 1, 7-31-21, dr gray sand 2761 ft. Union's R1, 34-32-15, 12½-inch cas cemt. 1440 ft, td 3075 ft; Chandler 1, 12-32-15, rigging rotary. World Pet. Corp.'s B-R 1, 7-32-22, will deepen from 850 ft.

SAN MATEO COUNTY — Shell's Butts 1, 21-6-5, coring 3082 ft; Cowell 2, 8-6-5, coring 2268 ft.

TULARE COUNTY — Ducor Drilling Co.'s 1, 29-23-27, redr 4092 ft. Kings-Tulare Synd.'s 1, 19-21-23, sd 4220 ft.

SOUTHERN CALIFORNIA

BELLFLOWER—World Pet. Corp.'s Blythe 1, dr brown shale 2350 ft.

CALABASAS—Easton and Smith's Morrison 1, dr shale and sand 2336 ft.

COSTA MESA—Mesa Pet. Corp.'s B. and G. 1, dr lime and shale 3028 ft.

DAVIDSON CITY — Calif. Well Drilling Co.'s Del Amo 1, 4¾-inch cas cemt. 7555 ft after two unsuccessful attempts.

DOMINGUEZ — Dominguez Extension Oil Co.'s R. B. 1, sd 5510 ft.

EL SEGUNDO — Southern Calif. Drilling Co.'s 1, sd 4865 ft.

FULLERTON—Shell's Stern 1, dr 5375 ft.

HUNTINGTON BEACH — Calnan Pet. Corp.'s S. W. 1, sd 5107 ft.

HAWTHORNE — San Clemente Oil Co.'s Peck 1, sd 5850 ft, bldg tank.

INGLEWOOD—Ring Pet. Corp.'s Simons 1, cemnt. off iron 3900 ft, td 4350 ft.

LANCASTER—Otis G. Andrews' 1, 23-8-13, sd 2075 ft.

LYNWOOD—Security Pet. Corp.'s 1, 13-3-13, sd 5335 ft.

MONTEREY PARK — Monterey Park Pet. Corp.'s Browning 1, 2½-inch tubing with packer run to 3810 ft, swabbed water, td 4530 ft.

PUENTE HILLS—Anchor Pet. Co.'s Hudson 1, dr shale 3630 ft.

SAN FERNANDO — Shell's Mission 2, dr sand 2992 ft.

WATSON — White-Behr Consolidated Oil Co.'s Watson 1, fsh 5300 ft.

WESTMINISTER—McCollom and Taylor's (Prairie's) Price 1, 13-5-11, dr sandy shale.

MISCELLANEOUS

RIVERSIDE COUNTY—Spindletop O. & G. Synd.'s Salton 1, dr sandy shale 3416 ft. Hall Pet. Co.'s Watt 1, dr sand 828 ft.

SAN BERNARDINO COUNTY — Western Pacific Oil Co.'s 3, dr sand 3075 ft.

SAN DIEGO COUNTY—Davenport O. & G. Development Co.'s 1, sdtr tools 550 ft. Torrey Pines Oil Co.'s 1, dr sand 1415 ft. S. S. Turner's Baler 1, sd 875 ft.

OKLAHOMA

WOODS COUNTY—T 28, R 18w, Sec. 11, George Vincent et al's Freedom 1, c sw, pond.

GRANT COUNTY—T 28, R 3w, Sec. 6, Otstot et al's Snyder 1, nec, sd 4518 ft.

HARPER COUNTY—T 27, R 21w, Sec. 24, A. F. Kopich Oil Co.'s Selman 1, nec se, spudded and sd.

WOODS COUNTY—T 27, R 15w, Sec. 20, Sooner State Oil Co. & E. R. Black's Marcum 1, c sw, spudded and sd.

GRANT COUNTY—T 27, R 5w, Sec. 18, J. W. Bailey's Custard 1, c se, ts 4835-60 ft, 800,000 gas, td 4882 ft, cemt cave, dr out cement. T 26, R 4w, Sec. 34, Sooner State Oil Co.'s Royce 1, swc nw, sd 550 ft.

KAY COUNTY—T 26, R 2e, Sec. 32, Vincent & Nat'l Union Oil Co.'s McNeal 1, nwc ne, sd 2795 ft.

HARPER COUNTY—T 25, R 22w, Sec. 14, Hoffer Oil Co.'s Cooper 1, nwc se, sd 4182 ft.

GRANT COUNTY—T 25, R 4w, Sec. 22, Cowden's Vallner 2, nec se sw, lost tools 5640 ft, td, sd.

KAY COUNTY—T 25, R 1w, Sec. 15, Tonkawa Dev. Co.'s McDaniels 1, sec, bit in hole 4638 ft, fshg.

NOBLE COUNTY—T 24, R 3e, Sec. 11, Geo. Miller et al's Howe 1, c nw se, td 1105 ft, fighting cave. T 20, R 1w, Sec. 32, Marland Oil Co.'s Kidd 1, nwc sw, dr 5152 ft.

TEXAS COUNTY—T 1n, R 18e, Sec. 11, Three Way Oil Co.'s Price 1, sec nw, 3318-58 ft, hfw, sd 3490 ft.

WOODWARD COUNTY—T 24n, R 17w, Sec. 32, Otstot Dev. Co.'s Simmons 1, sec, sd 1500 ft.

GARFIELD COUNTY—T 24n, R 6w, Sec. 9, Pulse & Beamer's White 1, sec nw, sd 4720 ft. T 24n, R 3w, Garfield, Sec. 14, Sagar Oil Co.'s Garsarch 1, sec, dr by csg. 4767 ft.

ELLIS COUNTY— T 21n, R 25w, Sec. 9, Oklahoma Northern Oil Co.'s 1, c se nw, sd 300 ft.

WOODWARD COUNTY—T 21n, R 19w, Sec. 15, Burgoyne Bros.' 1, swc se ne, dr 1305 ft. T 21n, R 21w, Sec. 25, Sharon's Elmore 1, swc, sd 2778 ft, rig blown down.

GARFIELD COUNTY—T 20n, R 4w, Sec. 9, Marland Oil Co.'s Looman 1, nec se, sd 5735 ft, csg parted. Sec. 12, Marland Oil Co.'s Miller 1, swc, sd 4586 ft.

DEWEY COUNTY—T 18n- R 15w, Sec. 9, Huckleby & McCoy's Perfect 1, nec, dr 4330 ft.

LOGAN COUNTY—T 18n, R 3w, Sec. 33, Haley & Consolidated Drlg. Co.'s Quier 1, sec sw, fsh 5-inch joints 5-inch csg and tools, 3945 ft. T 17, R 1e, Sec. 28, T. B. Slick's Berry 1, swc se, td 5730 ft hfw, p. b. to 4700 ft.

KINGFISHER COUNTY—T 16n, R 7w, Sec. 6, Galt Brown Oil Co.'s Campbell 1, c nw se, sd 4516 ft. T 16n, R 6w, Sec. 27, Crawford & McKenna's Stugeon 1, nec sw, sd 4509 ft.

LOGAN COUNTY—T 16n, R 1w, Sec. 28, Blackford O. & G. Co.'s Lair 1, csl n½ se, 1675 ft abn. T 15n, R 1w, Sec. 12, Bu-Vi-Bar Kirkpatrick 1, c sw, Wilcox 5750 ft, water 5765 ft, td 5793 ft, dry and abn.

CANADIAN COUNTY—T 14n, R 6w, Sec. 9, A. D. Spears Piatt 1, sec ne, sd 3223 ft.

OKLAHOMA COUNTY—T 13n, R 3w, Sec. 18, Slick & Bailey's Lufkin 1, c ne se, dr 4385 ft. T 12n, R 3w, Sec. 15, Cromwell et al's Thompson 1, swc ne ne, td 6870 ft, sd.

CANADIAN COUNTY—T 11n, R 7w, Sec. 9, Ramsey Bros.' Newman 1, csl ne, dr 5972 ft. T 10n, R 6w, Sec. 1, J. M. V. Bailey's Robinson 1, sec ne nw, sp and sd.

OSAGE COUNTY—T 26, R 7e, Sec. 30, Peters & Prod. & Ref. 1, sec ne, dr 2915 ft. T 23n, R 10e, Sec. 7, Sheeders O. & G. Co.'s 1, c ne Wilcox 2527-54 ft, td 2640 ft, show oil and hfw, p. b. to 2570 ft, shot 20 qts 2554-68 ft, 5 bbls. hour.

PAWNEE COUNTY—T 22n, R 5e, Sec. 33, Washoma O. & G. Co.'s Buffalo 1, sec nw, td 910 ft, csg trouble.

CREEK COUNTY—T 19n, R 8e, Sec. 34, Wood & Wood's McIntosh 1, swc se sw, sand 3322-34 ft hfw, plugging.

PAWNEE COUNTY—T 18n, R 3e, Sec. 32, Garber, Pulse & Gloyd's Widows 1, nec se nw, sd 1200 ft.

LINCOLN COUNTY—T 17n, R 3e, Sec. 20, Willis O. & G. Co.'s Gun 1, nwc se, sand 4714-52 ft, wtr. to plug. T 13n, R 4e, Sec. 16, Bu-Vi-Bar's School Land 1, c ne se, sd 4500 ft.

CREEK COUNTY—T 14n, R 9e, Sec. 1, L. C. Wheeler & King's Morton 1, sec nw, lcn.

OKFUSKEE COUNTY—T 11n, R 10e, Sec. 4, Moose & Daniels Stidham 1, swc nw, sd 622 ft.

MUSKOGEE COUNTY—T 13n, R 17e, Sec. 34, Elk Drlg. Co.'s McKee 1, csl se se se, sd 160 ft. T 13n, R 18e, Sec. 33, L. T. Haynie's Linder 1, c se, 2082 ft.

PITTSBURG COUNTY—T 9n, R 16e, Sec. 32, Pattison et al's McDuff 1, swc nw se, 3M gas at 5613-35 ft, dr 5460 ft.

HASKELL COUNTY—T 9n, R 18e, Sec. 10, Marion Oil Co.'s Sanders 1, nwc ne sw, 2M gas at 1800 ft, td 2311 ft, fsh tools.

LATIMER COUNTY—T 5n, R 18e, Sec. 15, Limestone O. & G. Co.'s Murray 1, swc, 1700 ft fsh reamer.

POTTAWATOMIE COUNTY—T 10n, R 3e, Sec. 12, Kilgore & Shaffer's Ives 1, 5490 ft, swedging 5-inch csg.

SEMINOLE COUNTY—T 10n, R 6e, Sec. 3, Superior Oil Co.'s Davis 1, swc se, dr 3415 ft. T 10n, R 7e, Sec. 6, Blackwell O. & G. Co.'s

OIL UNITS

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The reputation of the Nuttall Oilwell Units is built on their strength, their long life and the ease with which they are handled and installed.

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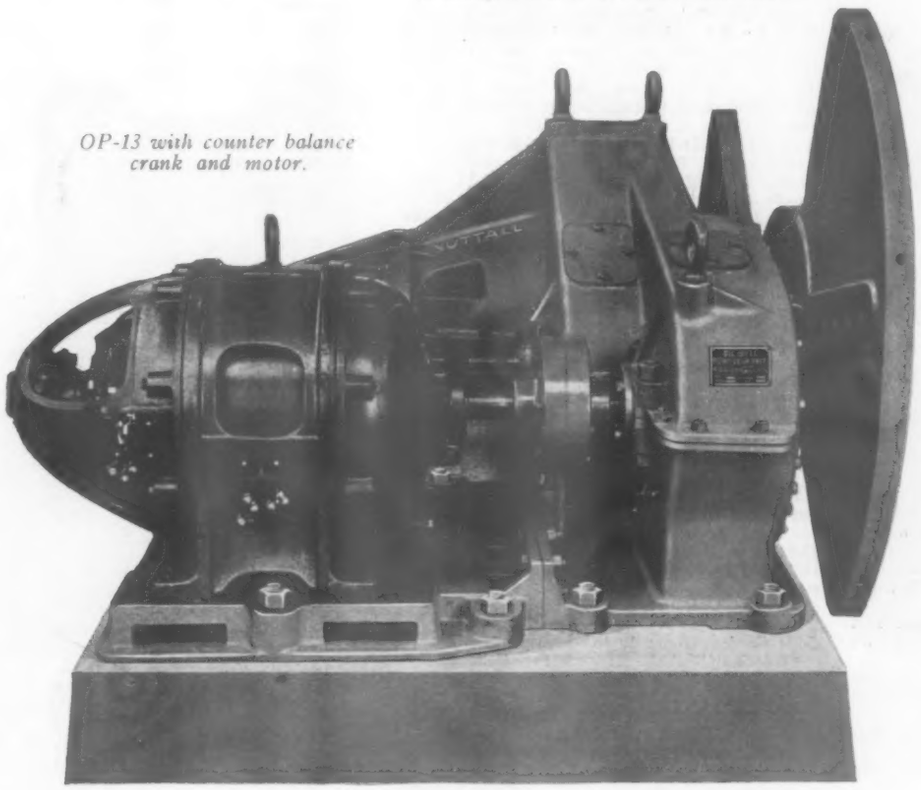


OP-13 with counter balance crank and motor.

"Further information can be secured from any office or branch of the Oil Well Supply Company, or from the District offices of the Westinghouse Electric and Manufacturing Company."

Oilwell Supply Co.
Authorized Distributor

Westinghouse — Nuttall

Bean 1, sec ne sw, dr 4810 ft. Sec. 18, Shaffer et al's Jones 1, swc ne, dr 4550 ft.

POTTAWATOMIE COUNTY—T 8n, R 2e, Sec. 24, Superior's Jones 1, swc nw ne, dr 4658 ft. T 8n, R 4e, Sec. 1, Amerada's Gravel 1, swc se ne, td 4485 ft, pb. to 4429 ft, shot 40 qts at 4340-80 ft, flows 61 bbls from Hunter and Viola lime, 39 gravity.

HUGHES COUNTY—T 8n, R 10e, Sec. 1, Bauer et al's Penn 1, nwc se ne, dr 185 ft.

CLEVELAND COUNTY—T 7n, R 1w, Sec. 15, Sooner Oil Vandeveer 1, nec nw sw, sd 3091 ft.

POTTAWATOMIE COUNTY—T 7n, R 2e, Sec. 17, T. B. Slick's Spangler 1, nw se nw nw, cemtg 8-inch 4500 ft.

SEMINOLE COUNTY—T 7n, R 6e, Sec. 7, Simon & Beam's Palmer 1, nec nw ne, rig.

POTTAWATOMIE COUNTY—T 6n, R 5e, Sec. 16, T. B. Slick's School Land 1, sec, Hunton lime 3925-4574 ft, hf sulphur w, dr 4585 ft. Sec. 20, Roxana's Deister 1, nwc se ne, Hunton lime 3774-80 ft, show oil, dr 3820 ft.

SEMINOLE COUNTY—T 6n, R 6e, Sec. 1, T. B. Slick's Moore 1, swc ne sw, sand 2870-75 ft, hfw, pb to 2760-75 ft, pump 7 bbls oil and 200bb ls water.

HUGHES COUNTY—T 5n, R 9e, Sec. 17, E. W. Whitney's Huddleston 1, sec sw, dr 400 ft.

GARVIN COUNTY—T 4n, R 3e, Sec. 10, Garland Oil Co.'s Strickland 1, swc nw sw, sandy lime 2701-03 ft, show oil and hfw, set 6-inch 2703 ft, td 2758 ft hfw, sd.

PONTOTOC COUNTY—T 4n, R 6e, Sec. 13, American O. & R. Co.'s Wright 1, nwc ne ne, dr 3582 ft, hf sulphur water. T 3n, R 8e, Sec 10, Douglas Oil Co.'s Johnson 1, c nw nw, dr 1900 ft, hfw.

COAL COUNTY—T 2n, R 8e, Sec. 5, Wichtex Oil Co.'s Folsom 1, c nw nw, lcn.

MURRAY COUNTY—T 1n, R 2e, Sec. 17, Revels & McGee Wolfe 1, nwc, sd 822 ft.

COAL COUNTY—T 1n, R 8e, Sec. 35, W. E. McGraw et al's Patton 1, swc se ne, dr 2555 ft. T 1n, R 9e, Sec. 24 Galbreath et al's Jones 1, swc se, spudded and sd.

CUSTER COUNTY—T 14n, R 14w, Sec. 1, W. E. Witt's 1, c sw, lcn.

CADDO COUNTY—T 12n, R 11w, Sec. 15, Abernathy & Ashton's 1, c nw, lcn. T 10n, R 12w, Sec. 28, Magnolia's Shelby 1, swc, drlg 3236 ft.

BECKHAM COUNTY—T 9n, R 22w, Sec. 32, O. & H. Pet. Co.'s Barnes 1, nwc ne, owdd, show oil 2210 ft, sd 3170 ft.

KIOWA COUNTY—T 7n, R 15w, Sec. 35, David Malernee's Van Kirkland 1, nwc, sd 858 ft. T 6n, R 15w, Sec. 6, Johnson & McDowell's 1, c sw ne, drlg 1575 ft.

CADDO COUNTY—T 6n, R 12w, Sec. 29, W. J. Hartley's Gilbreath 1, sec nw se, owdd, sd 3394 ft.

KIOWA COUNTY—T 5n, R 14w, Sec. 17, Blue Mtn. Oil Co.'s Jones 1, sec nw nw, sd 625 ft.

GRADY COUNTY—T 4n, R 7w, Sec. 21, Commercial Dev. Co.'s Crisman 1, c ne ne, drlg 2940 ft.

STEPHENS COUNTY—T 2n, R 5w, Sec. 20, Martin & Smythe's Vestal 1, c ne se, cemt surface pipe.

COMANCHE COUNTY—T 1n, R 12w, Sec. 14, P. Hrbacke & A. E. Korthaus' Wilson 1, c ne sw, owdd, sd 3430 ft.

JACKSON COUNTY—T 1s, R 20w, Sec. 33, Stanley McGregor's 1, swc nw sw, rur.

TILLMAN COUNTY—T 2s, R 17w, Sec. 23, A. J. Bundy's Hayter 1, cnl s½ se, sd 400 ft.

KIOWA COUNTY—T 2s, R 16w, Sec. 6, Landfair's 1, sec sw se, sd 2464 ft.

COTTON COUNTY—T 4s, R 12w, Sec. 16, Guiler & Pyson's Thomas 1, sec sw, spudded and sd.

JEFFERSON COUNTY—T 5s, R 8w, Sec. 28, Amerada's Emerson 1, nwc se sw, drlg 2235 ft.

JOHNSTON COUNTY—T 1s, R 7e, Sec. 29, Smity-Kinsley's Lane 1, sec nw, spudded and sd. T 4s, R 4e, Sec. 18, Wirt Franklin Pet. Corp.'s Wilkes 1, swc se, drlg 2450 ft.

MARSHALL COUNTY—T 4s, R 4e, Sec. 35, Wirt Franklin Pet. Corp.'s Foster 1, sec sw sw nw, d lg 890 ft. T 5s, R 4e, Sec. 11, Bilbo's Chapman 1, nec nw ne, sd 380 ft.

LOUISIANA

Completions

Company, Well and Location	Initial Production Bbls.	Depth
BOSSIER PARISH—		
D. D. Johnson, Caddo Ind., 1, 13-17-14	*	2640
CADDO PARISH—		
Bayou State Oil Co., Jolly C-1, 27-22-15	*	2377
D. C. Richardson, Youree 6, 30-20-15	*	2305
EAST CARROLL PARISH—		
The Texas Co., Boone Live Oak 1, 11-20-12e	*	3505
WINN PARISH—		
Sackrider Tr., Nelson 1, 26-11-1e	*	1590

BIENVILLE PARISH—S. P. Borden's L. & A. 2, 1-15-8, arr to test 1776 ft.

BOSSIER PARISH — Arkansas Nat. Gas Co.'s Bollinger 2, 38-23-11, dr 2950 ft; Peyton 1, 30-23-11, arr to test 3042 ft. Doern et al's Bollinger 1, 9-22-11, sd 4317 ft. H. S. Goodwin Tr.'s Curtis 2, 36-17-12, sd 3257 ft; McDade 1, 36-17-13, arr to test 1564 ft. Wm. Gross et al's Stewart 1, 15-18-12, fsh 3074 ft. Hamiter et al's Hamiter 1, 10-23-13, sd 1875 ft. La. Pet. Co.'s Farrington 1, 25-23-12, set 6-inch at 3072 ft. Palmer Corp.'s McDade 1, 13-17-12, rig. R. O. Roy's Werner 1, 8-17-11, lcn; Caplis 1, 25-16-12, sd 800 ft. Sligo Synd.'s Carmanche 1, 15-17-12, set 12½-inch at 250 ft. Walker et al's Antrim 1, 28-22-13, sd 2900 ft.

CADDO PARISH—Belchic & Lacky's P. A. Sharp 5, 15-18-16, sd 2000 ft. Bayou State Oil Co.'s Jolly C-1, 27-12-15, abn 2377 ft. W. T. Bell's Posey 4, 33-22-16, dr 1920 ft. J. T. Cox's Hall 1, 7-15-16, tested sw at 1121 ft. W. W. Dodson's Rives Heirs 8, 5-20-16, wosr 1850 ft. Dixie Oil Co.'s Robertshaw 81, 13-21-15, sd 4148 ft; Robertshaw 92, 13-21-15, tested sw at 4493 ft, dr 4512 ft; Dillon 53, 13-21-15, wosr 3757 ft; Dillon 93, 14-21-15, dr 1114 ft; Huckaby 4, 11-21-15, sd 4037 ft. Empire G. & F. Co.'s Nicholson 1, 33-17-14, dr 4381 ft. Wm. Gross' Baker 1, 35-17-16, sd 1148 ft. Gulf's Tyson 12, 14-21-15, wosr 4049 ft; Tyson 13, 14-21-15, coring 3962 ft. Magnolia's Bell 2, 6-17-16, sd 3225 ft; Dillon 21, 23-21-15, lcn; Furrh 3, 28-18-16, rig; Robertshaw 22, 23-21-15, r 4335 ft; Bryson 2, 8-17-16, arr to make drill stem test 2336 ft; Raines 26, 22-21-15, tested sw 3723 ft, arr to make drill stem test 3731 ft; Levee Board 3, 7-20-15, dr 128 ft. Simplex Oil Co.'s Baird 3, 22-29-15, sd 2765 ft; Hunsicker 6, 15-20-15, set 6-inch 2175 ft. Shreveport Oil Corp.'s Muslow 3, 32-21-15, dr 2908 ft. The Texas Co.'s C. M. L. 47, 23-21-15, dr 3922 ft. Warren et al's Berry 1, 26-15-15, rig; Gill & Lipscomb 1, 19-16-16, dr 650 ft.

CATAHOULA PARISH—S. D. Hunter's Tensas 3, 4-9-8e, r 2109 ft. Lochnager O. & G. Co.'s Taliaferro 1, 26-9-6e, sd 900 ft. The Texas Co.'s Tensas Delta Lbr. Co. B-1, 4-10-6e, set 15½-inch 195 ft.

DESOTO PARISH—Benson Oil Co.'s Jackson 1, 3-10-13, dk. Carlton Drilling Co.'s Stevens 2, 12-11-16, sd 350 ft. R. O. Roy's Lee 1, 33-14-13, dk. Rudeseale et al's Nabors 1, 6-12-11, dk. Williams et al's Fortson 2, 4-12-11, wosr 2430 ft.

EAST CARROLL PARISH—Palmer Corp.'s Hamley 1, 27-20-11e, dr 2284 ft. Woodley Pet. Co.'s Garden Home 1, 4-19-12e, dr 2410 ft.

FRANKLIN PARISH—La. Pet. Co.'s Dailey 1, 6-11-7e, sd 2200 ft. Pittsburgh Exploration Co.'s Moore 3, 12-11-6e, sd 2501 ft.

GRANT PARISH—W. D. Hall et al's Calhoun 3, 9-7-4w, sd 2200 ft. Swope et al's Fee 3, 8-9-1e, sd 1607 ft; Fee 5, 8-9-1e, wosr 1602 ft; Fee 6, 17-9-1e, dk.

LA SALLE PARISH—H. T. Taylor's Urania 7, 19-10-2e, sd 1574 ft. Tunica Pet. Co.'s L. & A. 42, 17-7-2e, wosr 816 ft; L. & A. 43, 17-7-2e, set 6-inch at 857 ft.

MADISON PARISH — Mid-American Pet. Co.'s Yerger 1, 51-16-14e, sdtrk 500 ft.

MOREHOUSE PARISH—Consolidated Carbon Co.'s Fee 3, 9-20-4e, dr 1340 ft. Elbert Pet. Co.'s Morehouse Plbg Co. 1, 40-19-7e, tested dry at 2732 ft. Gulf Ref. Co.'s Higginbotham 1, 42-20-7e, coring 3004 ft; School Board 1, 16-18-6e, dk; Waymond A-1, 7-18-6e, dr 2272 ft. Natural Gas Prod. Co.'s Taylor 1, 12-20-4e, set 12½-inch at 160 ft. Shaffer O. & R. Co.'s Lewisville 1, 11-20-8e, lcn. Southern Carbon Co.'s Tensas Delta 4, 22-21-4e, rig. The Texas Co.'s Meyers 1, 15-22-7e, testing 2906 ft; Huff 1, 36-23-7e, dr 2685 ft.

NATCHITOCHES PARISH—S. D. McDaniel's Clark-Morse 1, 23-5-6w, arr to make drill stem test 2407 ft. Robeline O. & G. Co.'s Cassody 1, 7-8-9, dk.

OUACHITA PARISH — Imperial O. & G. Co.'s Stubbs 6, 14-19-3e, dk. Jordan Drilling Co.'s Slagle 1, 48-18-4e, dk. Montgomery et al's Johnson 2, 31-19-4e, set 6-inch at 2149 ft. Natural Gas & Fuel Corp.'s McEnery 1, 21-19-4e, rig. Ouachita Nat. Gas Co.'s Potts 1, 33-19-3e, set 6-inch at 2162 ft. Phillips et al's School Fee 1, 16-16-4e, sd 1100 ft. Palmer Corp.'s Fee 4, 24-19-4e, dr 1385 ft. United Consumer's Slaughter 1, 24-19-4e, rig. J. O. White Tr.'s Schmidt 1, 3-15-4e, sd 3017 ft.

RAPIDES PARISH—G. E. Gilbertson's Wettymark 3, 13-5-4w, dk. Glenmore Pet. Co.'s Fee 1, 1-2-2w, sd 3860 ft.

RICHLAND PARISH—Boeuff River Pet. Co.'s Sartor 1, 9-15-6e, set 8-inch 870 ft. J. M. Fuller's Boise 1, 33-16-6e, lcn. W. C. Feazel's Perdue 1, 6-15-6e, set 8-inch 876 ft. Gulf's Millsaps 1, 8-17-6e, dr 4074 ft. S. D. Hunter's Pardue 1, 21-16-6e, set 8-inch 875 ft. Natural Gas & Fuel Corp.'s Sartor B-3, 19-16-6e, dk; Sartor B-4, 18-16-6e, lcn. Oliver & Masters' Morrison 1, 2-15-5e, arr to deepen 2439 ft; Hatch Heirs 1, 11-15-5e, sd 2502 ft. Ruston Drilling Co.'s Alexander 1, 4-15-5e, lcn; Etheredge 1, 28-17-6e, lcn. Southern Carbon Co.'s Sartor Jr. B-1, 9-16-6e, set 6-inch 2280 ft; Spann 2, 8-16-6e, dr 110 ft.

SABINE PARISH—Ark. Fuel Oil Co.'s Logan 12, 33-10-12, dr 2640 ft. Doern et al's Pickering 1, 17-4-11, dr 2835 ft. R. L. Gay's Mansfield 1, 15-7-14, sd 2870 ft. Plymouth Oil Co.'s Logan A-2, 23-10-13, dr 1930 ft. The Texas Co.'s Hamlin Est. 1, 28-10-13, dr 3350 ft. Zwolle O. & G. Co.'s Bowman Hicks 7, 14-7-14, sd 4008 ft; Sabine Lbr. Co. 1, 8-17-13, dk.

TENSAS PARISH—Enoch et al's Curry 1, 39-11-12e, dr 2400 ft.

UNION PARISH—Carter & Wingfield's Security Trust 1, 6-23-1e, dr 2000 ft. Jones & Mullin's McLeod 1, 13-19-1e, lcn. Natural Gas Prod. Co.'s Hale 1, 5-21-4e, dk; N. A. Pace 1, 35-22-3e, set 8-inch 904 ft. Ruston Drilling Co.'s Betty Neal 1, 24-20-3e, set 6-inch 2092 ft. R. W. Rhodes' Upshaw 1, 14-23-2w, dk. United Carbon Co.'s Peck 1, 7-20-4e, set 6-inch 2084 ft.

WEBSTER PARISH—Bethany O. & G. Co.'s O'Bier 1, 31-23-9, lcn. Dixie Oil Co.'s Cox 1, 15-21-10, dr 4400 ft. Virgil Helm's Mitchell 1, 32-23-9, set 6-inch 2652 ft. J. P. Hawkins Well Synd.'s Lewis 1, 15-23-9, dr 2800 ft. Humble O. & R. Co.'s Webb 2, 14-21-10, tested No. 4 at 4800 ft, prep to dr deeper; Bodcaw A-2, 14-21-10, dr 4887 ft; Davis 6, 14-21-10, dr 4515 ft; Cox 4, 22-21-10, dr 4059 ft. La. Oil Ref. Corp.'s Lindsay 4, 22-21-10, pb to 4700 ft; Crichton 5, 21-21-10, dr, stem stuck 4819 ft. Magnolia's Munn 2, 29-23-9, lcn; Bailey-Munn 1, 30-23-9, set 13⅜-inch 320 ft; Turner 5, 21-21-10, dk; Coyle 2, 21-27-10, dr 3880 ft; Cook 1, 2-22-11, set 13⅜-inch 307 ft; Mixon 1, 22-21-10, testing 4675 ft; Wise 1, 30-23-9, tested sw 2676 ft; Aasnes Cox 3, 22-21-10, dr 4373 ft; D. G. Cox 1, 22-21-10, pulling liner to deepen 4670 ft; E. W. Cox 5, 15-21-10, set 10¾-inch 3502 ft; Merritt 5, 14-21-10, dr 3219 ft. Ohio Oil Co.'s Bodsaw 39, 15-21-10, flowing 4734 ft; Bodcaw 40, 15-21-10, bailing 4685 ft; Bodcaw 41, 15-21-10, bailing 4702 ft; Haynes 1, 30-23-9, bailing 2709 ft; Hodges 2, 23-21-10, dk; Holloway 5, 23-21-10, set 12½-inch 460 ft. Palmer Corp.'s Tillman 3, 28-21-10, rig. Bruce Richardson's Mayfield 1, 20-23-9, wosr 2776 ft; Bailey 1, 29-23-9, dr 1600 ft. Woodley Pet. Co.'s Duhe 2, 22-21-10, dk; Burrows 1, 21-21-10, dr 2335 ft; Lewis 1, 15-21-10, arr to test 4717 ft.

WINN PARISH—Calvin Oil Co.'s L. & A. 1, 9-11-4w, set 10-inch at 80 ft. Humble O. & R. Co.'s Tremont A-2, 21-10-1w, rig.

ARKANSAS

Completion

Company, Well and Location	Initial Production Bbls.	Depth
UNION COUNTY—		
Ohio Oil Co., Adams 1, 11-17-14	*	3379

ASHLEY COUNTY—South Ark. Nat. Gas & Fuel Corp.'s Holmes 1, 9-16-7, dk.

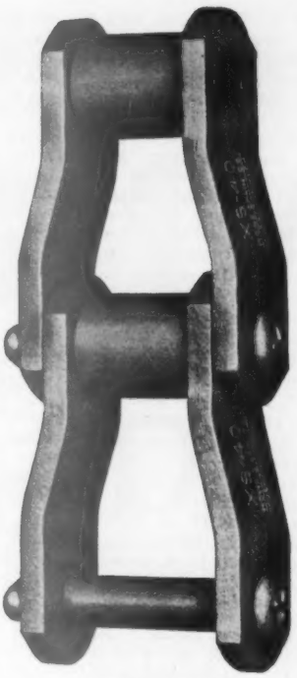
BRADLEY COUNTY—Joe Hurley's Southern Lbr. Co. 1, 26-15-10, sd 21 ft.

CLARK COUNTY — W. M. Henry Tr.'s

HOWE CHAIN

For Every Drilling Service

S-40
Pitch 3.075 in.
28,000 lbs. Strength



XS-40
Pitch 3.075 in.
40,000 lbs. Strength

A COMPLETE line—28,000 to 85,000 pounds ultimate strength.

S-40 and XS-40 run on the same wheels.

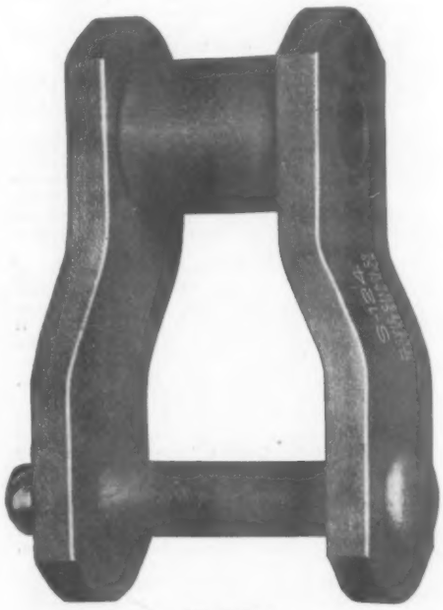
Also S-124 and XS-1240 are interchangeable.

The reliability of the chains has been proved by years of hard service under varied conditions.

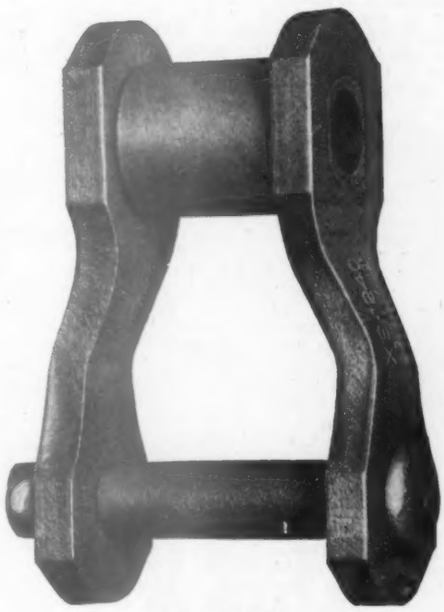
Send for particulars on Howe Rotary Chains.

Furnished both riveted and detachable.

H-23



S-124
Pitch 4.063 in.
58,000 lbs. Strength



XS-1240
Pitch 4.063 in.
85,000 lbs. Strength

Sold by

Republic Supply Company

General Offices: Houston, Texas

OIL AND GAS WELL SUPPLIES

ROTARY AND CABLE TOOLS

OKLAHOMA TEXAS ARKANSAS LOUISIANA

Say you saw it in The OIL WEEKLY

Clark 1, 34-9-21, sd 1200 ft. McKenzie Oil Co.'s Eaken 1, 9-11-19, dr 1750 ft.

CHICOT COUNTY—Joe Crawford's Cashion 1, 14-18-2, dr 1350 ft. S. D. Hunter's Lytle 1, 9-19-3, dr 950 ft. Mid-American O. & G. Co.'s Brownwell 1, 12-17-2, dk.

COLUMBIA COUNTY—Atlantic Oil Pord. Co.'s Jean 1, 11-19-19, tested sw at 2804 ft. Geo. Dawley's Gantt 1, 12-17-22, sd 2520 ft. Mitchell et al's Franks 1, 25-19-22, sd 150 ft. Van Hagen Synd.'s Pickler 1, 19-19-12, sd 850 ft; Mason 1, 31-19-22, rig.

DALLAS COUNTY—Dedman et al's Hillman 1, 20-10-13, sd 1100 ft.

GRANT COUNTY—Jones & Watkins' Meek 1, 5-4-11, sd 1400 ft.

LINCOLN COUNTY—Pine Prairie O. & G. Co.'s Carter 1, 33-10-6, sd 2176 ft.

LITTLE RIVER COUNTY—Grote et al's Allen 1, 31-12-31, sd 2941 ft.

NEVADA COUNTY — Humble O. & R. Co.'s Mixon 1, 6-15-20, wosr 1151 ft; Groves C-3, 1-14-21, dk.

OUACHITA COUNTY—Buffalo Oil Co.'s Laughlin 1, 22-15-19, dk. Timberlake et al's Carnes 1, 27-13-17, sd 2051 ft.

UNION COUNTY—Ark. Nat. Gas Corp.'s Felsenthal 1, 11-17-14, coring 3015 ft. Amerada Pet. Corp.'s Ezell 1, 3-17-14, dr 2235 ft. Brown et al's Miles 1, 4-17-14, dr 160 ft. Barton et al's Doss 1, 16-17-14, drill stem stuck 2945 ft. J. E. Crosbie's Brown 1, 8-17-14, set 10-inch 120 ft. O. W. Estes' Rowland 2, 14-17-14, coring 3080 ft; Rowland 3, 14-17-14, dr 2286 ft. Garrett & Modisette's Pyron 1, 21-17-14, dk. Gilliland Oil Co.'s Hicks 1, 16-17-14, dk. Grimes Bros.' Hill 2, 7-18-14, rig. H. L. Hunt's Dodson 1, 3-19-12, sd 1580 ft; Dykes 1, 21-18-12, sd 3203 ft; Gregory 5, 15-17-14, bailing 3219 ft; Gregory 9, 15-17-14, coring 3130 ft; Gregory 8, 15-17-14, rig; Gregory 12, 10-17-14, fsh 3298 ft. Hamilton et al's Doss 1, 16-17-14, rig. Hollyfield et al's McCain 1, 4-17-14, dr 1040 ft; Hicks 1, 16-17-14, rig; Kelly 1, 9-17-14, set 10-inch 648 ft. Imperial O. & G. Co.'s Central Bank 1, 1-17-15, dr 2438 ft; Goodwin 1, 26-17-16, sd 3368 ft; McClannahan 7, 6-16-15, wosr 1991 ft. E. C. Johnson's Gregory 1, 10-17-14, set 4½-inch 3202 ft; Gregory 2, 10-17-14, dr 2730 ft; Gregory 3, 10-17-14, rig. E. M. Jones' Crain 4, 2-17-14, sd 3069 ft; Perdue 1, 34-16-14, dr 2690 ft; Stegall 1, 10-18-14, sd 1300 ft; Wells 1, 21-17-14, dr 2440 ft. W. R. Keever's Ezell A-6, 12-17-15, sd 2136 ft. Lion O. & R. Co.'s Murphy C-7, 8-16-15, wosr 2468 ft; Murphy H-3, 9-16-15, wosr 2345 ft; Rowland 2, 15-17-14, sd 3261 ft; Rowland 4, 15-17-14, set 6⅝-inch 3183 ft; Union Saw Mill 1, (formerly reported as Nash 1), 6-17-13, rig; Kelly 1, 9-17-14, set 6⅝-inch 3190 ft; Sinclair 3, 16-17-14, dk; Sinclair 4, 16-17-14, rig. Lyall et al's Stegall 1, 11-17-13, coring 3003 ft. Lovette & Stone's Goodwin 1, 3-16-16, rig. Magnolia Pet. Co.'s Carroll 2, 1-17-14, sd 1500 ft; Felsenthal 1, 11-17-14, dr 3090 ft; Dumas 1, 11-17-14, dr 2814 ft; Gregory 1, 15-17-14, dr 940 ft. Mellor Tr.'s Peters 1, 28-17-14, lcn. Mellor et al's Van Hook 1, 7-18-14, wosr 2206 ft; Bullock 1, 7-18-14, wosr 2169 ft. Morefield & Tate's Smith 1, 6-18-13, dk. Mountz et al's Pratt 6, 8-18-16, wosr 2200 ft. C. E. Murdock's Dumas 2, 11-17-14, dr 2850 ft; Dumas 3, 11-17-14, rig; J. M. Gregory 3, 10-17-14, fsh 3195 ft; J. M. Gregory 4, 10-17-14, drill stem stuck 3327 ft; J. M. Gregory 5, 10-17-14, sd 3212 ft; J. M. Gregory 6, 10-17-14, arr to make drill stem test 3294 ft. J. O. Moore Tr.'s Pagan 1, 18-18-11, lubricating drill stem 3134 ft. R. J. McMurray's Hale 1, 23-19-15, set 10-inch 149 ft. Magna Prod. Co.'s Dumas 6, 11-17-14, dr 1890 ft; Rowland B-2, 14-17-14, dr 2115 ft; Rowland C-1, 14-17-14, dr 2370 ft; Townsend 2, 10-17-14, set 6⅝-inch 3212 ft; Townsend 4, 10-17-14, sd 2850 ft. Joe Marr's Sloan 1, 14-17-15, dr 2895 ft. Pat Marr's Hicks 1, 16-17-14, coring 2882 ft. Marr & Hooser's Slade 1, 3-17-14, coring 2913 ft. Mazda Oil Corp.'s Boyd 1, 9-17-15, arr to deepen 2692 ft; Diffie 1, 16-17-14, dr 2608 ft. Chas. F. Noble's Murphy Estate 1, 36-16-16, dk. Oil Well Corp.'s Ezell 1, 3-17-14, rig; Perdue A-1, 10-17-14, dr 2335 ft; Perdue A-2, 10-17-14, dr 2490 ft; Perdue B-1, 10-17-14, set 10-inch 156 ft; Perdue B-2, 10-17-14, set 10-inch 152 ft; Perdue C-1, 9-17-14, dr 1215 ft; Perdue C-2, 9-17-14, rig; Slade 1, 3-17-14, set 10-inch 169 ft; Snyder 1, 6-17-14, dr 1630 ft. Ohio Oil Co.'s Crain 4, 1-17-14, dk; J. M. Gregory 1, 10-17-14, fsh 1352 ft; Carroll Heirs 1, 6-17-13, set 10-inch 187 ft; Carrolle Heirs 2, 6-17-13, rig; Warren 1, 10-17-14, dr 1614 ft; Lochner 3, 11-17-14, coring 3137 ft; Rowland 1, 15-17-14, coring 3262 ft; Rowland 2, 15-17-14, coring 3211 ft; Rowland 3, 15-17-14, lcn; Taylor 1, 10-17-14, dr 2014 ft; Townsend 1, 10-17-14, set 6⅝-inch 3169 ft; Townsend 2, 10-17-14, dr 2524 ft. Patterson & Neighbor's Barnett 1, 33-17-14, dr 1100 ft. Pure Oil Co.'s E. F. Gregory 7, 10-17-14, coring 3194 ft; E. F. Gregory 8, 11-17-14, lcn; E. F. Gregory 9, 11-17-14, set 12½-inch 187 ft; Gregory B-1, 10-17-14, arr to make drill stem test at 3490 ft; Gregory B-2, 10-17-14, coring 3244 ft; J. M. Gregory 3, 11-17-14, set 6⅝-inch 3210 ft; J. M. Gregory 4, 11-17-14, dr 2432 ft; J. M. Gregory 5, 11-17-14, lcn; Gregory Estate 3, 15-17-14, coring 3211 ft; Gregory Estate 4, 15-17-14, dr 3080 ft; Gregory Estate 5, 15-17-14, dr 2595 ft; Taylor 1, 10-17-14, making drill stem test at 3248 ft; Taylor 2, 10-17-14, dr 2662 ft; Taylor 3, 10-17-14, dr 1518 ft. Rhodes Tr.'s Union Saw Mill 1, 14-19-11, sd 3210 ft. Rice et al's Heineman & Meyers 1, 23-18-16, sd 2240 ft. Richardson et al's Goodwin 1, 16-16-14, coring 3075 ft. Rovenger Oil Corp.'s Perdue 2, 10-17-14, dr 2094 ft; Perdue 3, 10-17-14, dr 1668 ft. Roxana Pet. Corp.'s Doss 1, 16-17-14, rig. Rr. Rushing et al's Gregory 3, 11-17-14, fsh 3222 ft. Root Ref. Co.'s Ed Doss 1, 16-17-14, dk; M. Doss 1, 16-17-14, rig; M. Doss 2, 16-17-14, dk; M. Doss 3, 16-17-14, rig; E. F. Gregory 1, 10-17-14, setting liner 3232 ft; E. F. Gregory 2, 10-17-14, dr 1980 ft; J. M. Gregory 1, 15-17-14, making drill stem test at 3192 ft. Sun Oil Co.'s Schmidt 1, 16-17-14, dr 2285 ft; Schmidt 2, 16-17-14, dr 2100 ft; Schmidt 3, 16-17-14, dr 2303 ft. Simroll et al's Findley 1, 12-17-14, arr to deepen 3179 ft. Simmons et al's Green 1, 3-16-16, dr plug 1969 ft. Skelly Oil Co.'s J. M. Gregory 1, 15-17-14, arr to make drill stem test at 3051 ft; Perdue 1, 10-17-14, coring 3168 ft; Perdue 2, 10-17-14, dr 2315 ft; Perdue 3, 10-17-14, dr 2427 ft; Perdue 4, 10-17-14, dr 2900 ft; Perdue 5, 10-17-14, dr 800 ft; Miles 1, 4-17-14, dr 1599 ft. Timberlake et al's Dumas 1, 11-17-14, set 4½-inch 3202 ft. Tharpe et al's Hicks 1, 16-17-14, dr 1640 ft. F. B. Wood Tr.'s Spahr 3, 34-15-16, bailing 2050 ft.

SOUTH LOUISIANA

Completions

CAMERON PARISH—			
Calcasieu Oil Co., Magnolia and Union Sulphur Co., Caldwell 3, Kelso Bayou dome		*	3864
Valery 1, Kelso Bayou		500	3953
Watkins 5, Kelso Bayou		1200	3955
Yount-Lee Oil Co., State Land 13, Kelso Bayou		1200	3860

ASCENSION PARISH—Gulf's United Lands Co.'s 8, Sorrento dome, ru. Baton Rouge Pet. Co.'s Liotta 1, lcn. Acme Prod. Co.'s De Haas-Eby 1, Sorrento. Triumph Oil Corp.'s Lacey et al 1, 1½ mi se Sorrento, dr 740 ft shale.

CALCASIEU PARISH—Union Sulphur Co.'s Fee 728, Sulphur dome, dr 3125 ft sandy shale; Fee 729, Sulphur dome, drk; Fee 730, Sulphur dome, dr 2000 ft rock; Kelly 1, Sulphur dome, ru. Lahay et al's Jones 2, ru.

CAMERON PARISH — Pure Oil Co.'s Sweet Lake 2, Sweet Lake, waiting on orders; Sweet Lake 3, Sweet Lake, dr 6232 ft sand and shale; Sweet Lake 4, Sweet Lake, flowing 80 bbls daily; Sweet Lake 5, Sweet Lake, flowing 3700 bbls oil daily. La. Land & Explo. Co.'s Calcasieu Lake B-2, ½ mi ne Kelso Bayou dome, cored sand at 3545 ft; Calcasieu Lake A-2, Kelso Bayou dist, ru. Calcasieu Oil Co., Magnolia Pet. Co. and Union Sulphur Co.'s Olevia 2, Kelso Bayou dome, dr 4200 ft; Caldwell 3, Kelso Bayou dome, abandoned, td 3864 ft; Watkins 4, Kelso Bayou dome, will test, td 3987 ft; Watkins 5, Kelso Bayou dome, completed for 1200 bbls pipe line oil on July 5, td 3955 ft, now making 1000 bbls oil; Valery 1, Kelso Bayou dome, completed for 500 bbls net oil, making considerable water, td 3953 ft; Watkins 6, Kelso Bayou dome, dr 3700 ft; Watkins 7, Kelso Bayou, ru; Watkins 8, Kelso Bayou, drk. Roxana's Watkins 2, Black Bayou district, dr 2030 ft gbo. Yount-Lee Oil Co.'s State Land 12, Kelso Bayou, dr 3800 ft gbo and lime; State Land 13, Kelso Bayou dome, completed for 1200 bbls pipe line oil at 3860 ft; State Land 14, Kelso Bayou dome, lcn; State Land 15, Kelso Bayou dome, lcn.

IBERIA PARISH—La. Land & Explo. Co.'s Vermilion Bay A-2, dr 2915 ft lime. Gulf's State Z-5, Loreauville, sd; Kling et al 1, Loreauville, dr 1295 ft cap rock.

IBERVILLE PARISH—Roxana's Wilbert 2, White Castle dome, dr 2195 ft shale. Standard Oil Co. of La.'s Wilbert 1, driving piling. Welch Pet. Co.'s Purveiance 1, Welsh, dr 3620 ft gbo.

JEFFERSON DAVIS PARISH—Indiana-La. Oil Co.'s LeDoux 2, lcn.

LA FOURCHE PARISH—Gulf's Stark 4, Thibodaux, dr 1200 ft.

PLAQUEMINE PARISH—Gusher Bill O. & G. Co.'s Park Plantation 1, dr 1900 ft gbo.

ST. MARTIN PARISH—Rycade's Fee 3, Bayou Bouillion dome, dr 3268 ft. Bayou Bouillion 1, Bayou Bouillion dome, dr 3100 ft gbo; Bayou Bouillion 2, Bayou Bouillion dome, drk; State 1, Bayou Bouillion dome, dr 1742 ft sand; Martin 1, dr 690 ft sand and gravel. Yount-Lee Oil Co.'s Louisiana Pet. Co. 1, Anse la Butte, dr 1900 ft shale. Bowie O. & G. Co.'s Begnaud 4, Anse la Butte, standing 3910 ft.

ST. MARY PARISH—J. Dannenbaum's Viguerie 1, Charenton Bench, fsh 3214 ft.

WEST FELICIANA PARISH—Foster & Roberson's Raccourci 1, ru.

WEST BATON ROUGE PARISH—Grosse Tete O. & G. Co.'s Wilbert 1, sd 1365 ft.

TEXAS GULF COAST

Completions

AUSTIN COUNTY—			
Humble, Grawunder A-1, Raccoon Bend		*	4482
BRAZORIA COUNTY—			
McNellie Oil Co., Bartlett 1, W. Columbia		*	4030
Leonard Pet. Co., Wisdom 3, Damon Mound		30	1960
FORT BEND COUNTY—			
Sun Oil Co., Kasparek 3, Boling		5	3545
WASHINGTON COUNTY—			
Trinity Drillers Corp., Giddings 1, Brenham		*	3050
Pratt-Hewitt, Konieczy 3, Brenham.		*	1700

AUSTIN COUNTY—Humble's L. R. Urban 1, Raccoon Bend, dr 910 ft sticky shale; Bracey 1, Raccoon Bend, aiting on cement to set, 1110 ft; Grawunder A-1, Raccoon Bend, abandoned at 4482 ft; Gotosky 3, Raccoon Bend, ru. L. H. Weddock's Ward 1, sd 2025 ft.

BRAZORIA COUNTY—Roxana's Randon 1, Allen Dome, dr 5380 ft shale and lime; Poole A-2, Allen Dome, dr 2825 ft gbo and lime. Gulf's Perry 4, Stratton Ridge, dr 3575 ft rock. Leonard Pet. Co.'s Widom 3, Damon Mound, completed for 30 bbls, pumping from 1960 ft. McNellie Oil Co.'s Bartlett 1, West Columbia, abandoned at 4030 ft.

CHAMBERS COUNTY—R. L. Bartlett's Fisher 1, Barbers Hill, sd 2160 ft. Pure Oil Co.'s Lost River 1, Lost Lake Dome, dr 3982 ft lime; Old River 1, Lost Lake Dome, dr 1843 ft gbo; Lost Lake 1, Lost Lake Dome, dr 2535 ft shale; Trinity River 1, Lost Lake Dome, drk; Lost River Lake 1, Lost Lake Dome, drk; Cut-Off Bayou, Lost Lake Dome, drk.

COLORADO COUNTY—Rich Oil Corp.'s Von Rosenberg 1, 2½ mi ne Columbus, waiting on rig at 2697 ft; Wallace 1, 1½ mi n Alleyton, spudded. Humble's Simmanzs 1, se Altair, dr 700 ft shale. U. S. Oil & G. Co.'s Swank 1, 6 mi s Rock Island, dr 1000 ft.

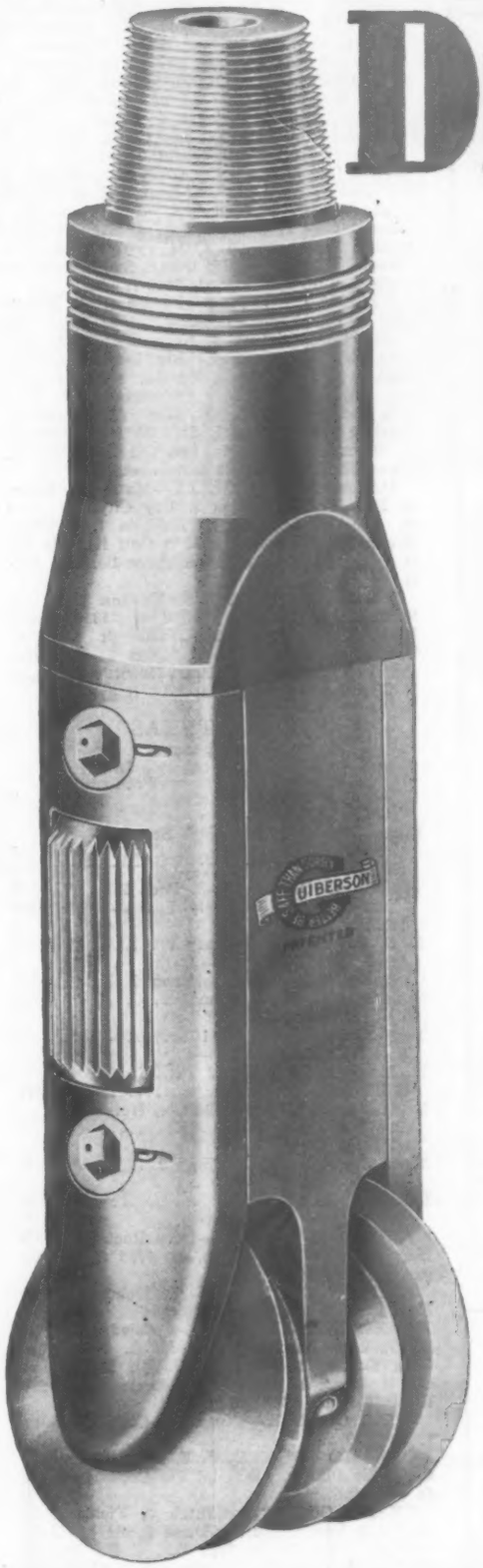
FORT BEND COUNTY—Sun Oil Co.'s E. C. Farmer 2, Boling, dr 3355 ft rock; Kaspareck 3, Boling, completed, spraying about 5 bbls oil, td 3545 ft; H. R. Farmer 6, Boling, drk. Gulf's Trone 8, Long Point, dr 3510 ft; Wolf 10, Long Point, dr 500 ft gbo; Moore 16, Moore's Field, dr 2100 ft shale and lime. The Texas Co.'s E. Farmer 1, Boling, dr 3080 ft gbo and lime. Humble's Brazos Farm 1, Sugarland dome, killed gas and now dr 3365 ft sandy shale; Sugarland Industries 2, Sugarland dome, dr 3341 ft shale; Sugarland Industries 3, Sugarland dome, drk; Deathridge 1, Sugarland dome, dr 2876 ft gbo. J. H. Diehl's Armstrong 1, 2 mi e Boling, we 475 ft.

HARDIN COUNTY — The Texas Co.'s Cruse 1, Batson, dr 1500 ft gbo and lime.

HARRIS COUNTY—Torsen et al's Stewart 1, 4 mi sw Genoa, drk. J. A. Hautier's Grouse

THE NEW Guiberson Disc Bit

A Wonder for SPEED!



In Seminole and other fields, the GUIBERSON Disc Bit is breaking all records for fast drilling. It goes through soft and semi-hard formations at hitherto unknown speed. It also goes through rock shells economically, thus eliminating frequent pulling out to change bits.

In addition to saving time, this bit also shows remarkable savings in the cost of spares per foot of hole drilled. Contractors say it "pays for itself on the first hole."

Note These Features:

Axis is offset from true radius of bit, giving discs full circumferential travel.

Reamers in cheek plates keep hole reamed close to bottom.

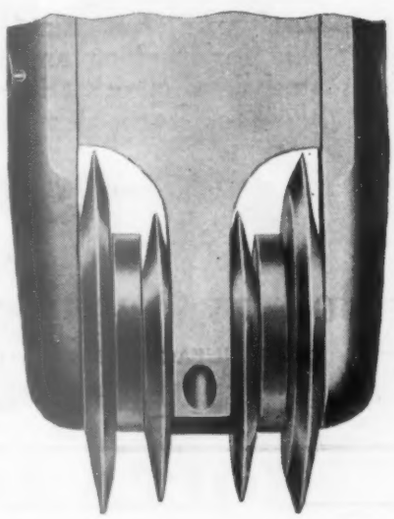
Space between cutters is self-cleaning, as a result of large cutters being on different axes from small.

Flusing channels extend to extreme bottom of bit, keeping bottom of hole clean for cutters.

Head of bit is flat on two sides, providing ample space for passage of water and cuttings.

Due to speed of the bit, efficient, large capacity pumps are recommended.

Fully patented.



"Better Be Safe Than Sorry"

THE GUIBERSON CORPORATION

Box 1106, Dallas, Texas

California Branch: 1506 Santa Fe Ave., Los Angeles

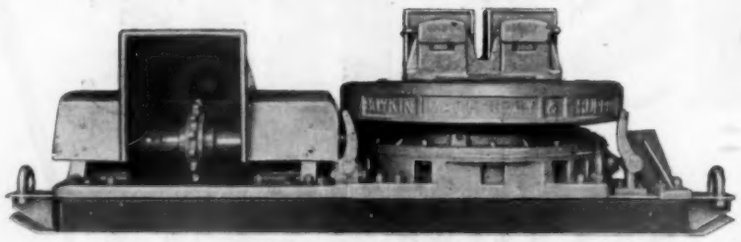
402 W. First St.,	321 Osage St.,	506 Trust Bldg.,
TULSA	PONCA CITY	NEWARK, O.

GUIBERSON

BETTER BE SAFE THAN SORRY

Say you saw it in The OIL WEEKLY

BOYKIN SPEED AND ENDURANCE GREYHOUND PRODUCTS



The "25" Model

Roller Bearing Rotary

with Boykin Drive

The 25 Model is a marvel in Rotary equipment. All places subject to wear from friction are made of chrome nickel steel. The roller bearings used are the well known Hyatt Roller Bearings which are encased in hardened steel inner and outer races. The bearing boxes, table hold down and cone races are provided with connections for the Alemite system of lubrication. It is mounted on steel structural beam skids using U bolts at the end of each skid for handling and swinging into place. The steel drive sprocket is adjustable 6" each way to allow for proper alignment with the draw works.

Drill economically to Any Depth—with this Feature Rotary—

Boykin Machinery & Supply Co.

MANUFACTURERS OF "GREYHOUND" PRODUCTS

BEAUMONT—HOUSTON, TEXAS

Ayer & Lord Tie Co.

Incorporated 1893

Railroad Cross Ties Lumber Poles

CHICAGO

Bridge Timbers Car Stocks Piling Posts

Treating Plants

Carbondale, Ill. Grenada, Miss. North Little Rock, Ark. Louisville, Ky. Montgomery, Ala.

"WE SPECIALIZE IN TELEPHONE POLES"

1, Greens Bayou, sd 1910 ft. Hunt et al's Lobit 1, 4 mi n Goose Creek, fsh 2148 ft. Humble's Warren 4, Hockley, dr 3253 ft hard sand. Mrs. Baldwin et al's Kitsman 1, 2 mi n Cypress, lcn. Cedar Bayou Oil Co.'s Johnston 1, 8 mi n Goose Creek, dr 2152 ft gbo. M. & S. Oil Co.'s Cook 1, 2 mi ne Crosby, lcn. The Texas Co.'s House 21, n extension Humble field, dr 3427 ft shale. Drummett et al's Brock 1, Almeda, dr 2195 ft sand rock.

JEFFERSON COUNTY—Deep Test Oil Co.'s McFaddin 1, 4 mi ne Spindle Top, sd 2175 ft. Gulf's Bordages 6, Fannett, dr 3595 ft sand. So. Spindle Top O. & Dev. Co.'s Young 1, 1 mi w Nederland, sd 3425 ft. Port Arthur O. & Dev. Co.'s West 4, Westbury, dr 4581 ft gbo. A. M. Deems et al's Mashman, 2, 1 mi s Voth, lcn. The Texas Co.'s Gladys City 1, Spindle Top, dr 5250 ft sticky shale. Beaumont Oil Co.'s Tyrrell 1, 2 mi w Brooks, drk. Oswald Dome Syndicate's Oswald 1, 2 mi se Chelk, dr 2600 ft gbo.

LIBERTY COUNTY—Barlow et al's Minchcliff 1, 2½ mi ne Cleveland, sd 2215 ft. The Texas Co.'s Pickett 2, nw extension S. Liberty, dr 3487 ft sand. Big Dome Interests' Finley 1, 2⅓ mi nw Hardin, reaming 3275 ft. Harrison Oil Co.'s Quintette 3, N. Dayton, set 6⅝-in cas at 4265 ft. Humble's Sterling 1, Moss Bluff, dr 2030 ft; Welder 8, S. Dayton, dr 2547 ft. Sun Oil Co.'s Kyle 1, Moss Bluff, dr 1560 ft water sand.

MATAGORDA COUNTY—Matagorda County Dev. Co.'s Hawkins 1, Bay City, sd 1985 ft. Dr. P. S. Griffith's Robbins 1, e Citrus Grove, ru; Baer 1, 1½ mi n Gulf Hill, dr 850 ft. Gulf's Vinyard 1, Hawkinsville, dr 4500 ft.

WASHINGTON COUNTY—Sun Oil Co.'s Schirmer 1, Brenham, tested at 3385 ft with Edwards tester, no show, now dr 3385 ft. Trinity Drillers Corp.'s Giddings 1, Brenham, abandoned at 3050 ft. Pratt-Hewitt's Konieczy 3, Brenham, abandoned at 1700 ft gyp.

WEST TEXAS

Completions

Company, Well and Location	Initial Production Bbls.	Depth
COKE COUNTY—		
Lipan Oil Co. & Stearns & Streeter, Conner 1	*	3505
CROCKETT COUNTY—		
Taylor-Link Oil Co., L. P. Peck 1	*	1735
Tidal Oil Co., University 1	*	2566
IRION COUNTY—		
L. P. Powell et al, Horney 1	*	1325
MENARD COUNTY—		
Carpenter & Robbins, Kothman 2	*	660
Sabiens et al, F. Wilhelm 1	*	410
PECOS COUNTY—		
Mays-Nixon Co., Perry 1	*	2085
RUNNELS COUNTY—		
H. L. Griswold & Royal Pet. Co., Willingham 1	*	2617
Marland & E. L. Smith Oil Co., Herring 1-A	*	3100
UPTON COUNTY—		
Mark Curtis et al, Giddings 2	*	3531
WARD COUNTY—		
Estex Oil Co., Estes 1	*	3530

ANDREWS COUNTY—Deep Rock Oil Co.'s Harris 1, elev 3173 ft, top salt 1705 ft, making gas, fsh 4018 ft.

BORDEN COUNTY—E. L. Doheny et al's Koonsman 1, dr 370 ft.

BREWSTER COUNTY — Cowden-Cole et al's Jackson-Harmon 1-A, dr 895 ft. Forest Oil Co.'s Skinner 1, sd 1150 ft. Van McPhail et al's McIntyre 1, dr 1760 ft. Reese & White's Kimball 1, sd 1807 ft.

COKE COUNTY—Lipan Oil Co.'s Rawlings 1, dr 2830 ft.

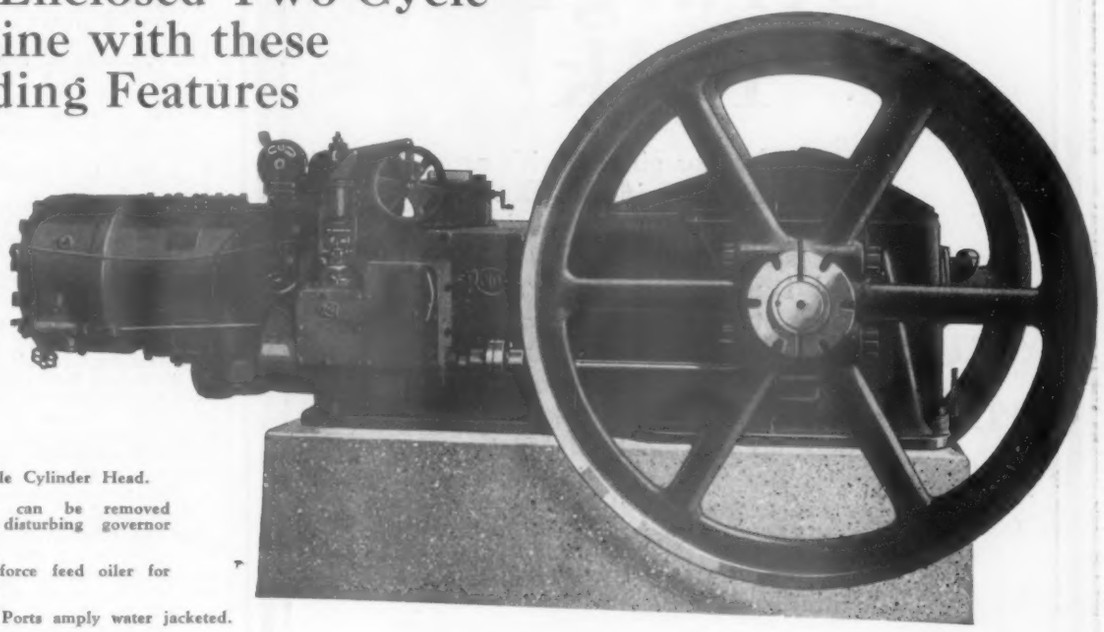
CONCHO COUNTY—J. E. Beall et al's Sansom 1, dr 1085 ft. Douglas Oil Co.'s Harral 1, dr 2430 ft.

CRANE COUNTY—Church & Fields' University 3, lcn; University-Duoll 2, elev 2557 ft, top salt 1000 ft, dr 2225 ft. Gulf's W. N. Waddell 4, elev 2735 ft, top salt 1185 ft, top brown lime 3128 ft, show oil 3170-71 and 3295-3305 ft, dr 3305 ft. Evans-Anderson & J. K. Hughes' State Bank Fee 1, elev 2463 ft, top salt 525 ft, fsh 2220 ft.

CROCKETT COUNTY—Anderson & Williams' University 1, sd 2510 ft. The California Co.'s Powell 1, top salt 1045 ft, dr 2485 ft; Powell 2, elev 2792 ft, top salt 1084 ft, cem cas 2525 ft. Hal Compton & Co.'s University

The REID

Type C Enclosed Two Cycle Gas Engine with these Outstanding Features



Removable Cylinder Head.

Cylinder can be removed without disturbing governor case.

3 feed force feed oiler for cylinder.

Exhaust Ports amply water jacketed.

Automatic Air starting valve.

Governor or speed wheel regulated gas valves.

Governor may be adjusted for any desired speed while engine is running.

Speed wheel arrangement permits engine speed to be increased without changing setting on governor.

Enclosed governor, gear driven, running in oil.

New disc type inlet valve mounted on top of cylinder.

Governor, Wico igniter, and oil circulating pump mounted as one unit.

Encased Wico igniter with operating cam running in oil bath.

Bored cross-head guide.

Split hub flywheels; one furnished with Reid standard hub, other wheel furnished with A. P. I. standard hub.

Removable steel backed babbitt-lined main bearings.

Enclosed bed plate.

Counterbalanced crank.

Helical drive gears for lay shaft.

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Straight Talk

As the elevator girl said, it's an up and down business. But in the case of the elevator, it is at least straight up and down, which is more than you can say for the stroke on many a well. Every Jensen Jack has a straight lift, and the right one for any given well has a stroke that brings up the most oil for the least money. No strain, no vibration. Saves other equipment above and below ground, and doesn't cost much at that. Write for catalog.

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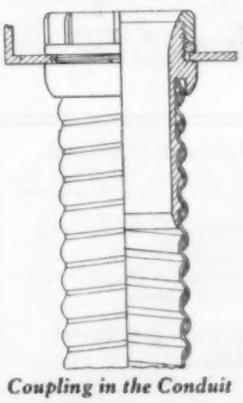
—and Pumping Units

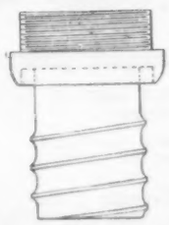


Coupling in the Conduit

Flexible Conduit Connections should be
"JAKE"

Cast in Brass in sizes ½ to 2 inches
Also
Adapters for present Installation

Write for details if your dealer can't supply you



Coupling

Hunter-Walker Company
809-813 Public Nat'l Bank Bldg., HOUSTON, TEXAS

1, top salt 1055 ft, dr 1525 ft. W. W. Donnelly et al's Massie 1-A, dr 420 ft; Shannon-Middlebuster 1, (Sec 18) sd 165 ft; Shannon-Powell 1, (Sec 42) spd and sd. Fuhrman Pet. Corp.'s Padgett 1, lcn. Gulf's Powell 3-D, elev 2794 ft, top salt 1085 ft, set cas 2573 ft. Humble & Marland's Powell 4-B, elev 2679 ft, top salt 1040 ft, top lime 2492 ft, dr 2500 ft. McMan & Amerada's Powell 1, elev 2715 ft, top salt 1075 ft, fsh 2410 ft. Renee Oil Co.'s University 1, elev 2692 ft, top salt 1100 ft, top lime 2070 ft, show oil 2139-44 ft, dr 2170 ft. Republic Prod. Co.'s Powell 1-B, elev 2723 ft, top salt 1045 ft, dr 2500 ft. Simmons & Marland's University 1, sd 1130 ft. Transcontinental Oil Co.'s Atwood 1, elev 2555 ft, top salt 513 ft, top lime 1890 ft, dr 2790 ft.

CULBERSON COUNTY—Deep Rock Oil Co.'s Dettis 1, dr 965 ft. Dittman Drilling Co.'s Miller 1, sd 1767 ft. J. M. Hickey et al's Finley 1, sd 1385 ft.

JEFF DAVIS COUNTY—Sam F. Means et al's J. Z. Means 1, sd with trace oil 2866 ft.

EDWARDS COUNTY—Magnolia Pet. Co.'s Whitehead 2, spudding.

EL PASO COUNTY—C. E. Sillix et al's Malone 1, sd 1010 ft.

FISHER COUNTY—Cranfill-Reynolds & Sun Oil Co.'s Willingham 1, elev 1788 ft, dr 2680 ft. Mid-West Explo. Co.'s Decker 1 and 2, lcns. R. W. Rainey & Bill Little's Marberry 2, elev 1929 ft, top lime 2995 ft, fsh cas with show oil 3285-89 ft. Roeser-Pendleton & Landreth Prod. Corp.'s Decker 1, rig. Texas Unity Oil Co.'s Reddus 1, dr 245 ft.

GARZA COUNTY—Emerald Oil Co.'s Boren 3, elev 2363 ft, dr 4600 ft. Latimer & Waggoner's Cross 1, lcn abn.

GLASSCOCK COUNTY — Landreth Prod. Corp.'s Houston 2, elev 2609 ft, top salt 1265 ft, dr 2250 ft. Meriwether Oil Co.'s McDowell 2, elev 2522 ft, top salt 1000 ft, top lime 2510 ft, sd 3340 ft. Roxana's Boston 1, elev 2713 ft, top salt 1205 ft, top lime 2760 ft, dr 2880 ft. World Oil Co.'s McDowell 1-B, elev 2523 ft, dr 485 ft.

TOM GREEN COUNTY—F. P. Green et al's Fee 1, fsh 1040 ft. Tinker et al's Jones 1, sd 940 ft. McLaughlin & Ridge's Holder 1, set cas 2655 ft.

HOWARD COUNTY—Amerada & Rycade's Roberts 1, elev 2773 ft, fsh stem 1861 ft; Stewart 1, cem cas 2090 ft. Bristow & Merrick's Hooks 6, fsh 1754 ft; Hooks 7, cem cas 1756 ft; Hooks 8, spd and sd. J. S. Cosden & Co.'s Roberts 1-A, elev 2777 ft, set cas 1987 ft; Roberts 2-A, elev 2792 ft, cem cas 2020 ft; Roberts 3-A, elev 2754 ft, dr 1165 ft; Roberts 4-A, lcn. W. W. Donnely et al's Clay 1, sd 1485 ft. F-H-E Oil Co. and Moody Corp.'s Roberts 3-B and 4-B, lcns; Roberts 3-E, dr 2065 ft; Roberts 4-E, to 8-E, lcns. Godley O. & G. Co.'s Hooks 5, sd 1739 ft; Hooks 6, dr 850 ft; Hooks 7, lcn. Gulf's Clay 2, dr 125 ft; Chalk 5, spudding. Greene O. & R. Co.'s Clay 2, rotary rig. Geo. Henshaw et al's Eason-Settles 1, co 1925 ft; Settles 1, making oil, dr 2660 ft. Laurel O. & G. Co.'s Read 1, elev 2375 ft, top salt 965 ft, dr 2155 ft. Laurel & Cosden & Co.'s (was Owen-Sloan) Roberts 4, elev 2744 ft, swab 470 bbls oil 2515-2710 ft; Roberts 5, set cas 1994 ft; Roberts 6, spd and sd. Magnolia Pet. Co.'s O'Daniel 2, dr 1120 ft; Roberts 4, elev 2704 ft, dr 2210 ft; Roberts 7, elev 2769 ft, top lime 2017 ft, set cas on oil pay 2513-15 ft; Roberts 8, elev 2729 ft, top lime 2045 ft, dr oil pay 2484-2503 ft; Roberts 9, lcn. Marland's Chalk 3-E, set cas 1683 ft; Clay 1-F, rig; Roberts 1, lcn. Mays-Nixon Co.'s Flowers 1, elev 2497 ft, sd 2517 ft. Merrick & Lamb's Clay 4, dr 1335 ft. Mid-West Explo. Co.'s Clay 1, dk. Pure Oil Co.'s chalk 5, dr 1665 ft. Schermerhorn Oil Co.'s Roberts 2, rig. Sun Oil Co.'s Settles 2, elev 2717 ft, top lime 2120 ft, water broke oil poy 2920-30 ft. Texon & Marland's Settles 3-A and 4-A, lcns. Ward Oil Co.'s Roberts 2, lcn.

HUDSPETH COUNTY—Empire G. & F. Co.'s Sawyer 1, dr 740 ft. Kimbrough & Tuel's Nutt 1, sd 1155 ft. A. P. Markey et al's Thompson 1, lcn. Mertzon Oil Co.'s Roach 1, dr 950 ft. Moore & Kennedy's Tankersley 1, dr 325 ft. F. E. Webb et al's Nutt 1, sd 1750 ft. West et al's Suggs 1, sd 195 ft.

JONES COUNTY — Campbell & W. G. Clark's Dickinson 1, spd and sd. E. P. Campbell et al's Berry 1, rig. Cowboy Evans et al's King 1, dr 770 ft. Hucony Gas Co. et al's Tiner 2, dr 660 ft; Tiner 3, dr 115 ft. Hurley

Oil Co.'s Gunther 1, ur 2190 ft. McMan O. & G. Co.'s Tiner 1, lcn. Pandem Oil Corp.'s S. R. Cox 1, dk. Phillips Pet. Co.'s Mason 3, dr 2455 ft; G. M. Sharp 1, elev 1881 ft, dr 2200 ft; Sharp 2, dr 430 ft; Winters 6, dr 4215 ft. Roberts Oil Corp. & J. S. Cosden & Co.'s Grayson 1, elev 1881 ft, set cas 2280 ft; Grayson 2, elev 1878 ft, dr 1160 ft; Grayson 3, dr 765 ft. Roeser-Pendleton & Landreth Prod. Corp.'s Grayson 1, dr 655 ft. Roeser-Pendleton & Stebbins O. & G. Co.'s Higgs 2, sd to pump 1855-65 ft. Snowden & McSweeney's Bickley 1, dr 900 ft. Teas & Wheeler's H. Sayles 1, dr 2400 ft. Texas Co. and Cosden & Co.'s L. Carter 1, elev 1877 ft, dr 1170 ft.

KENT COUNTY—J. S. Cosden & Co.'s Bilby 1, sd 460 ft. Phillips Pet. Co.'s Sandell 1, spd and sd.

KING COUNTY—Humble's Pitchfork 1, sd 4035 ft. Texas Co.'s Johnson 1, dr 2310 ft.

LOVING COUNTY—Lockhart & Co.'s Bowers-Wells 1, elev 2690 ft, top salt 730 ft, dr 2610 ft; Hubbard 1, top salt 708 ftfi dr 1215 ft; Fee 1, top black lime 4095 ft, sd for shot with oih 4100-35 ft. Hadlock Oil Co.'s Russell 2, top salt 750 ft, dr 3605 ft.

LYNN COUNTY—Elpo Oil Co.'s Nevels 1, top salt 3570 ft, sd 3505 ft.

MARTIN COUNTY—Phillips Pet. Co.'s Slaughter 1, elev 2726 ft, top salt 1685 ft, fsh 3430 ft.

MENARD COUNTY—Moody Corp.'s Allison 1, elev 2053 ft, sd 2805 ft. Panhandle Ref. Co. & W. W. Silk's Eckhardt 1, sd 1430 ft.

MIDLAND COUNTY—Gholson et al's Moreland 1, dry hole 4377 ft. O. H. Shoup et al's Parks 1, elev 2871 ft, top salt 1740 ft, sd 2860 ft.

MITCHELL COUNTY—Hucony Gas Co.'s Wiechsel 1, rig.

NOLAN COUNTY—Herbert Oil Co.'s Pepper 1, dr 310 ft.

PECOS COUNTY—Amerada Pet. Corp.'s Dillon 1, fsh 1460 ft. Anderson et al's University 1, sd 1880 ft. Alexander & Lyles' Sellman 1, ur 620 ft. Benedum & Trees' Corder 1-A, dr 1070 ft. Diamond Pet. Co.'s Blackstone-Slaughter 1, top salt 885 ft, sd 2250 ft. M. Z. Dibble et al's Bonebrake 1, sd 1170 ft. Ditto Oil Co.'s Montgomery 1, fsh 170 ft. Cowboy Evans et al's S. Byrens 1, dr 1075 ft. Bob Elmore et al's M. Holmes 2, elev 2150 ft, dr 1505 ft. Farrell et al's University 1, dr 1645 ft. Fuhrman Pet. Corp.'s Ewing 1, fsh 565 ft. J. W. Grant et al's W. W. Turney 1, (dd) elev 2592 ft, co 3527 ft. Mid-Kansas O. & G. Co.'s Pryor 1, elev 2790 ft, top salt 1465 ft, top lime 3000 ft, sd 3330 ft. Olean Pet. Co.'s Harrel 1, elev 3005 ft, top salt 845 ft, dr 1665 ft. Phillips Pet. Co.'s Heyman-Nutt 1, elev 2943 ft, top lime 2085 ft, sr 2530 ft. Roxana & Kirby Pet. Co.'s University 1, elev 2620 ft, dr 2755 ft. Southern Crude's Sharbauer 1, elev 2680 ft, ur with hfw 2500 ft. Sun Oil Co.'s University 1, elev 2666 ft, top salt 865 ft, dr 1685 ft. Transcontinental Oil Co.'s University 1, elev 2552 ft, top salt 1035 ft, fsh 3315 ft. Vacuum Oil Co.'s Elsinore 1, elev 3554 ft, dr sandy-lime 3815 ft. P. R. Whonlich & Co.'s Arnold 1, cavey hole 230 ft. World Oil Co.'s Kloh 1, elev 2810 ft, dr 2735 ft.

PRESIDIO COUNTY — Empire-Delmar et al's Tootle 1, spd and sd.

REAGAN COUNTY — Herbert Oil Co.-Moody Corp. & Carl Cromwell's Walters 1, elev 2765 ft, top salt 1120 ft, top lime 2195 ft, show gas 2370 ft, dr 2405 ft. Texon's University-McBurnett 1, top salt 1270 ft, dr 2800 ft.

REEVES COUNTY — Eastland Oil Co.-Vacuum & Geo. Lyles' Campbell 1, dr blue gyp 590 ft. Exploration Co. et al's Kinney 1, elev 2847 ft, cas col 2900 ft. E. W. Brooks-Thompson et al's Eddins 1, elev 2719 ft, swedging cas 5658 ft.

RUNNELS COUNTY—Agnew & Sons' Russell 1, ur 2150 ft. Gibson-Johnson et al's Rainwater 1, sd 1800 ft. Hamilton et al's Spill 1, rig. Henry B. May et al's Schneider 1, elev 1666 ft, sd 2516 ft. Pure Oil Co.'s Giesecke 1, dr 490 ft. R. B. Summers et al's Reese 1, sd 1655 ft. Vacuum Oil Co. et al's Flannagan 1, elev 1767 ft, sd 2720 ft; Fowler 1, elev 1706 ft, ur with hfw 2340 ft.

SCURRY COUNTY—R. B. Pender et al's Davis 1, rig.

STERLING COUNTY—Grayson et al's Fos-

Armco Culvert under a Texas railroad for pipe line protection and drain.

Let Armco Corrugated Culvert keep traffic shocks from your pipe lines

Unprotected oil and gas lines under railroads or highways are exposed to shocks from overhead traffic.

This can be avoided by passing them through sturdy Armco Corrugated Culvert of pure Armco Ingot Iron, made to absorb the heaviest beatings—easily installed by ordinary labor.

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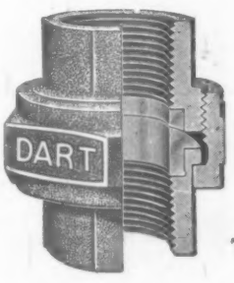
BRONZE TO BRONZE

Is the Reason



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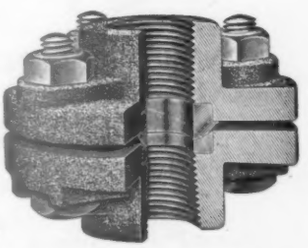

1000 feet
11" hole
40 hours
cost 3 cents per foot

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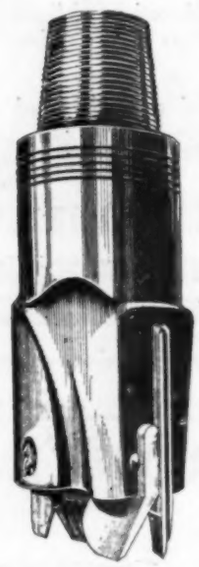
THE LINE OF LEAST RESISTANCE

STRAIGHT-HOLE
Rotary Drilling Bit

—made this speed and low cost record. A 1000 feet of 11" hole in 40 hours, passing another well by 100 feet that was started 5 days previously, is the record made by the Klingensmith Drilling Company at Pearson Switch, Okla., with three sets of K-P self-sharpening cutters in a K-P *Straight-Hole* Bit. *This thousand feet cost Klingensmith only $30.00 for K-P self-sharpening cutters.* The total footage was made in three round trips.



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Railway Exchange Building
ST. LOUIS, MO.

Sold by every
"Continental" — "National"—"Oil Well" supply company branch store.

ter 1, rig. Manhattan Oil Co. et al's Ellwood 1, dr 1640 ft.

STONEWALL COUNTY — Henshaw Oil Corp. et al's Moore 1, ur 2985 ft.

SUTTON COUNTY—Phillips Pet. Co.'s Holman 1, dr 645 ft.

TERRELL COUNTY—Champlin Ref. Co.'s Carter 1, elev 2884 ft, dr 3260 ft. Big Bend Oil Co.'s Bassett 1, rig. Milham Corp.'s Bassett 1, elev 2270 ft, dr 3280 ft. Keck-Pecos Oil Trust's Hamilton 1, sd 500 ft.

UPTON COUNTY—Atlantic et al's Elkins 1, sd 3931 ft. Buell-Hagan's Robbins 1, cavey hole 180 ft. Marland & Wentz's Timms 1, elev 2836 ft, top salt 1460 ft, dr 2855 ft. F. P. Zoch et al's Union-Murphy 1, lcn.

VAL VERDE COUNTY — Val Vert Oil Corp.'s Bassett 1, spd and sd.

WARD COUNTY—Denver Prod. & Ref. Co.'s Cherokee Fee 1, dr 1480 ft. Rector Oil Co.'s State Fee 1, top salt 535 ft, top lime 2277 ft, sd 2311 ft.

WINKLER COUNTY—Amerada Pet. Corp.'s Walton 1, sd 2502 ft. V. T. Bolin & Co.'s Brown 1, elev 2847 ft, top salt 1302 ft, put on pump after shot, td 3211 ft. Danciger O. & R. Co. et al's Sealy 1, top salt 1085 ft, top lime 3115 ft, pb from 3501 to 3193 ft for shot. Humble's Walton 1-B, elev 2844 ft, top salt 890 ft, top lime 2342 ft, coring saturated lime 3006-13 ft. Roxana-Llano Oil Co.'s Scarborough 3, elev 2939 ft, top salt 1280 ft, top lime 2958 ft, drilled plug and sd 2960 ft. Sid Richardson et al's Stockton-O'Brien 1, dr 1105 ft. T P Coal & Oil Co.'s Daugherty 1, sd 1000 ft.

SOUTHWEST TEXAS

Completions

Company, Well and Location	Initial Production Bbls.	Depth
CALDWELL COUNTY—		
Magnolia, Gerry 1	*	2500

CALDWELL COUNTY—Radcliff et al's Briscoe 1, 3 mi ne Luling, dr 2830 ft lime. United North & South Dev. Co.'s Tiller 2, Luling, dr 7460 ft schist; Kelly 1, Luling, dr 7792 ft schist. Datex Oil Co.'s August 1, Branyon dist, td 2450 ft in chalk. Magnolia's Gerry 1, Branyon dist, abn at 2500 ft. Luling O. & G. Co.'s Carter 2, standing at 2865 ft. Davis et al's Young 1, Branyon dist, standing at 2220 ft. Roxana Pet. Corp.'s Jolly 2, w of Lockhart, dr 1200 ft lime. T. C. Hadley's Wilson 1, drk.

DUVAL COUNTY—National Oil Co.'s Bell 1, standing at 2560 ft. R. Driscoll's Fee 12, dr 2783 ft shale.

HIDALGO COUNTY—Dale Smith's Daskan 1, sd 3235 ft. Queen City O. & G. Co.'s American Land & Irrig. Co. 2, 3 mi n Mercedes, sd 700 ft.

JIM HOGG COUNTY—Edward St. Albans' Holbein 2, dr 2095 ft shale.

JIM WELLS COUNTY—Cushing Oil Co.'s Perez 1, 3 mi n Alice, fsh 1560 ft.

KINNEY COUNTY — Stephens et al's Clamp 1, sd 1515 ft.

MAVERICK COUNTY—Rycade Oil Corp.'s Chittam 1, Eagle Pass, td 5630 ft; Chittam 2, Eagle Pass, dr 5990 ft lime; Sullivan 3, Eagle Pass, spudded. Ryan Consolidated's India Land Co. 1, 24 mi se Eagle Pass, fsh 4400 ft.

NUECES COUNTY—May et al's Gallagher 1, standing 150 ft. Grimm & Morris' Garrett 1, Aqua Dulce, dr 1225 ft shale.

SAN PATRICIO COUNTY—National Oil Co.'s McMullen sur 1, td 3320 ft.

STARR COUNTY—The Texas Co.'s Guerra 1, near Roma, dr 4010 ft sandy shale.

VAL VERDE COUNTY—East Del Rio's Weathe bee 1, sd 3350 ft. Thraves et al's Wilson 1, sd 1125 ft. Valvert Oil Co.'s Bassett 1, ru.

MOUNTAIN STATES

WYOMING

ALBANY—Union of Calif. 1, sw nw 35-17-75w, dr below 2300 ft.

BIG HORN—Utah Southern Oil Co.'s 3, 29-56n-97w, dr 3428 ft. Producers & Refiners, 3, 24-56n-98w, dr 2455 ft. Assurance Oil Co., 25-51n-93w, rig. Prescott-Bert 3, 30-51n-92w, spudded.

CARBON—Graybeal Dome Synd., 16-28n-80w, pipe frozen in the red beds at 4600 ft.

CONVERSE—A. A. Tylee, ne 8-32-72, dr 700 ft. Criterion Oil Co., Irvine 1, 5-31-70, resuming to run casing to 3180 ft.

FREMONT—Producers & Refiners, Muskrat 1, 34-34-92, fsh bit at 4050 ft. Texas Production Co., Alkali Butte 1, 1-33-95, dr 3570 ft, carrying 6¼-inch at 3554 ft. Martin Falk, ne 9-31n-98w, fsh 2280 ft. R. A. Brett et al, Haywire 1, se 29-32n-98w, run 5 3/16-inch.

JOHNSON—Fairway Oil Co., Crazy Woman 1, 7-47-82, sd 2367 ft. Tarrant Synd., 17-46n-82w, co 3615 ft and dr resumed.

LINCOLN—Midwest Explo. Co., Waterfall 1, sw 35-22-113, dr 380 ft. Viking Oil Co., 33-25-112, spudding.

NATRONA—M. C. Weisman et al, se 4-30-81, dr 1300 ft.

NIOBRARA—Buck Creek Oil Co., 4-36n-62w, pulling casing to dr deeper.

PARK—Calif. Explo. Co., 1A, 29-48-103, dr 310 ft. Fred G. Ostland, Hoodoo Ranch 1, 23-51-101, td 1740 ft. E. H. Rosenburg, 25-58n-98w, dr below 1590 ft. California Explo. Co. and Producers & Refiners, Pitchfork 1, 14-48n-102w, dr 703 ft. Ohio Oil Co., 27-53-101, dr out cement at 3635 ft. Lenco Pet. Co., 20-53-101, sd 100 ft. Ydoc Oil Co., ne 6-15n-101w, sd 735 ft. Union of California, Taylor 1, 22-47-101, dr 3780 ft. T. N. Clark, et al, se 11-49n-102w, dr 1300 ft. Resolute Oil Co., nw 17-57-101, dr 1000 ft.

PLATTE—Walter Adams, Trustee, 13-25-66, set casing and cemented.

SUBLETTE — Wyoming Producers, 30-28-113, showing at 2153 ft. Lackey et al, 12-28n-114w, redr 550 ft. Minton et al, 4-26n-113w, sd 1445 ft.

SWEETWATER — Prairie O. & G. Co., Tucker 1, 18-13-99, dr 950 ft. P & R and Marland, 26-20-104, dr 2160 ft. Twer Pet. Cor., 1, 6-14n-103w, standardizing, 2715 ft. Vermilion Oil Co., sw 16-12-99, swdg. Sormir Pet. Co., 2, 13-12-100, fsh 1330 ft.

MONTANA

BIG HORN—Selig Oil Co., se 21-6s-35, rigging to resume, td 850 ft.

CARBON—Ohio Oil Co., Northern Pacific, 1, 11-7s-21e, sdtr casing at 4420 ft.

CHOTEAU—Williston-Shelby Oil Co., Flack 1, se 12-28-11e, dr 1500 ft.

GARFIELD—Carroll Bros., nw ne 6-14n-31e, skidding rig.

HILL—Jones Oil Co., Mangell 1, 32-32-14, td 267 ft. Jones Oil Co., Mangell 2, nw 32-34-14, rig. MacFarland et al, Boxelder 1, sw 15-30-13e, td 900 ft.

LIBERTY—Sunburst O. & R. Co., Disotell 1, 10-37-5e, will deepen from 3015 ft. Square Deal Oil Co., Federal Land Bank 1, se 1-32-73, dr 1275 ft.

PONDERA—California Pet. Corp., Jones 1, nw 8-27-4w, dr at 2103 ft. Calpet, Copley 1, ne 14-27-4w, dr 100 ft. Continental Dev. Co., Gjullin 2, nw 15-27-4w, dr 150 ft. Calpet, Kingsbury 1, sw 15-27-4w, dr 1290 ft. Texas Pacific Coal & Oil Co., Hirshberg 2, 14-27-4w, dr 200 ft. Texas Pacific Coal & Oil Co., Hirshberg 3, 14-27-4w, rig up. McCracken et al, Gjullin 1, 10-27-4w, rig up. Ohio Oil Co., Hirshberg 1, 15-27-4w, rigged to spud. Peerless Dev. Co., State 1, sw 16-27-3w, rig up. Fulton Pet. Corp., State 2, nw 16-27-4w, rig

TETON—Fulton Pet Corp., Trevillion 1, ne 21 27-4w, 1,000,000 gas at 2107 ft. Elkhorn O. & G. Co., 1, ne 12-24-1e, sd 400 ft. "56" Petroleum Co p., Speer 1, ne 4-25-1e, rig up. Mitchener et al, Willick 1, ne 18-24-1e, dr 1200 ft. C. L. Archer et al, 1, se 31-26-1e, dr 100 ft. Ha drock Oil Co., Speer 2, sw 5-25-1e, rig up. Fulton Pete Corp., Hirshberg 1, ne 22-27-4w, lcn.

TOOLE—Madeline Oil Co., Swenson 1, ne 35-35-4w, dr 2050 ft.

UTAH

BOX ELDER—Utah Pennsylvanian Oil Co., nw 3-10n-4w, spudded May 8.

CARBON—Price River Pet. Co., 1, se 16-14s-10e, dr below 2700 ft.

GRAND—Utah Oil Ref., Moab Consolidated, Utah Southern, Salt Valley 1, 13-23-21, fsh 360 ft. Utah Southern and Moab Consolidated, Shaffer 1, 36-26-20, dr 1590 ft. Navajo Pet. Co., 2-20-21, dr 800 ft. Crescent Eagle Oil Co., 1, se 4-22s-19e, co to 2600 ft, td 4000 ft. Western States Development Co., 1, sw 27-21s-19e, dr 1450 ft. Big 6 Oil Co., Randall 1, 10-22-19, set 15-inch at 100 ft.

NAVAJO RESERVATION—Continental Oil Co., Boundary Butte 1, 31-43-21, dr by lost tools at 4041 ft.

SAN JUAN—Boulder Knoll O. & G. Co., 1, 17-34-25, 10,000,000 gas at 2640 ft.

UINTA—Weste n Venture Oil Co., Krum-

vieda 1, 6-5-21, underr to lower casing to 923 ft.

UTAH—Diamond Oil Co., 3, ne 28-8s-4e, dr 1550 ft.

WAYNE—Texas Prod. Co., Shipley 1, 5-27-14, try to drill past tools at 2975 ft. Phillips Pet. Corp., 16-27-16, dr 1935 ft.

COLORADO

ARCHULETA—Kansas-Colo Oil Co., 17-34-2w, sd 1820 ft.

BENT—Marland Oil Co., No. 1 Pipe Springs, se 27-29s-49w, bldg rig.

EL PASO—Grand Union Oil Co., No. 2 John Jr., 19-17s-67w, sd 775 ft.

JACKSON—Producers & Refiners, Hendershot 1, ne 2-26n-81w, rigging up.

JEFFERSON—Wood et al, 1, 30-3s-69, dr 1900 ft.

LAS ANIMAS—Reiter-Foster & Phillips Pet. 23-29n-56, dr 2365 ft. Alavier Petroleum Co., 1, Branson, ne 3-35s-58e, ready to spud.

LA PLATA—Childers Dr. & Pr. Co., Dry Mesa 1, 29-32n-14w, spudded 110 ft. Royal P. & Ref. Co., Red Mesa 1, 27-33n-12w, rig.

LOGAN—Northeastern Colo. Oil Co., State 1, 36-8n-55w, abn 5612 ft.

MESA—Eureka Oil Co., No. 2 Holly, 24-1e-1e, sd 925 ft.

MORGAN—Badger Creek O. & G. Co., Kent 1, sw 2-2n-57w, dr 200 ft.

MOFFAT—Reiter-Foster, State 1, 16-12-100, sd 2240 ft. Yarg Producing & Refining Co., 205, 26-4n-92w, dr 3945 ft. Alliance Oil Co., Milliken 1, 14-4n-92w, dr 3255 ft. McCormick et al, Sales 1, se 28-4n-92w, moving in.

RIO BLANCO—Texas Prod. Co., Freeman 1, 27-3-94, dr 5800 ft. Argo Oil Co., se 9-2s-96w, standing ready to spud.

ROUTT—Great Western Oil Co., State 1, 17-60n-56w, standing 2504 ft.

YUMA — Etnyre Synd., se sw 7-2s-43, sd 900 ft.

NEW MEXICO

CHAVES—McQuigg Bors., Neis 1, 7-5s-29e, dr 3200 ft. Berrendo O. & G. Co., Roswell 1, 5-10-27, sd 725 ft. Manhattan Oil Co., Arena 1, 18-13-31e, contract comp, Snowden & McSweeney, Merchant 1, nw 27-15s-23e, dr 707 ft. R. E. Neal et al, Russell 1, 21-14s-25e, sd 1055 ft. Warman et al, 1, sw 23-13s-24e, ready to spud.

DE BACA—Matador Oil Co., State 1, sw 6-4n-20e, sd 500 ft. Navajo Oil Co., McAdoo 1, ne 16-1s-27e, dr 4052 ft.

GUADALUPE—Hanchett Oil Co., Rutherford 1, 24-8-24, susp. indefinitely.

LEA—Midwest Ref. Co., State 1, 9-19s-39e, dr deeper at 4090 ft. Midwest Refining Co., Farnsworth 19, 12-26-37w, dr 805 ft. Marland Oil Co., Eaves 1, 19-36-37, will dr deeper from 2968 ft. Marland Oil Co., Sholes 1, 19-25s-37e, dr 2750 ft. Empire Gas & Fuel Co., State 1, 8-21s-35e, dr 3380 ft. Gypsy Oil Co., State 1, 34-21s-36e, dr 2605 ft. Exploration Co., Record 1, ne 26-19s-35e, dr 4450 ft. Marland Oil Co., Danciger 1, 7-23-36e, bldg rig. Morton et al, 1, ne 32-11s-38, prep to spud. Texas Prod. Co., Sheppard 1, ne 6-26s-37e, moving in. Texas Production Co., Eagle 1, sw 9-26s-36e, lcn. Texas Production Co., Moberly 1, se 17-26s-37e, lcn. Bordages et al, Hughes 1, 27-19-18e, ready to re-run 8¼-inch to 3545 ft. Curtis Dr. Co., Nixon 1, 22-18s-34e, td 610 ft. C. E. Reynolds Dr. Co., Anderson 1, 29-13s-37e, cas. trouble at 1475 ft. Marland Oil Co., Ne. 1 Lynn, 26-23s-36e, moving in.

McKINLEY—Smart & Reid, 7-17-9, rig. Inland Oil Corp., 22-18-10, installing heavier rig. S. Dysart 1, 21-14-9, sd 1700 ft. Williams et al, 30-18-8w, sd 1795 ft.

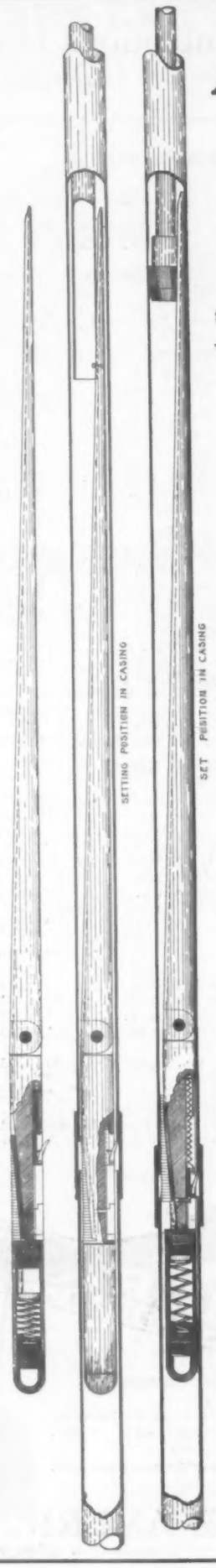
QUAY—Gibson Oil Corp., 1, 25-8-32, prep. to deepen from 3500 ft.

SAN JUAN—Continental Oil Co., Munoz 17, dr 5778 ft. T. C. N. Oil Co., Lanier 1, 9-29-11, sd 547 ft. Huntington Park Oil Co., 29-30-9, sd 4585 ft. Huerfano Oil Co., Wiltbank 1, 25-29-11, standing 800 ft. San Juan Pet. Co., 1, 9-29-13w, sd 2950 ft. Poole & Pebbeles, Lawson 1, 9-30n-11, sd 770 ft. Kirtland Dr. Co., Hunt 1, 10-29-15, dr 317 ft. Kutz Canon Oil & Gas Co., Day 1, 29-28-11, td 270 ft. Midwest Ref. Co., State 1, se 36-22n-14w, prep. to spud. Blackrock Oil Co., 1, sw 11-25n-13w, spd. 175 ft.

SAN MIGUEL—E. Adams et al, Deason 1, 14-15n-16e, sd 1235 ft.

TORRANCE—Duran Dome Oil Co., 1, 31-2-14, sd 1600 ft. Bluhall O. & G. Co., 20-6n-10e, underr at 1205 ft. Hall et al, Pinos Wells 1, sw 25-3n-13e, dr 400 ft.

VALENCIA — Acme Oil Co., N. M.-Ariz. Land Co., 26-6-3, dr 2710 ft.



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Completions During the Past Week

(*Continued from page 67*)

TEXAS PANHANDLE

Company, well and Location	Initial Production Bbls.	Depth
CARSON COUNTY—		
The Texas Co., R. S. McConnell 1	¶56	2542

CENTRAL WEST TEXAS

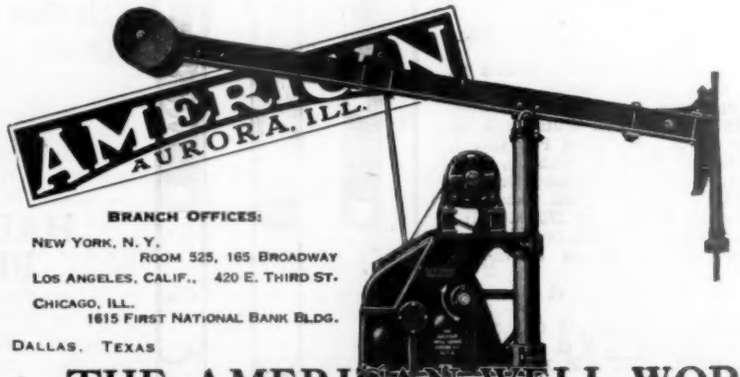
Company, well and Location	Initial Production Bbls.	Depth
BROWN COUNTY—		
Bradstreet & Mahlstedt, Eubanks 3.	150	1239
Bryson et al, Bull 1	†	1135
Clark-Buffalo Oil Co., Keese 1	10	1660
Cranfill & Reynolds, Eubanks 9	15	1224
Daniels et al, Looper 1	*	1838
Henshaw Oil Corp., Bush 17	70	1108
Geo. Lamb et al, Sweet 1	*	1680
Logan et al, Gilliam 1	*	1368
Logan & Carter, Lewis 2	90	1072
Mitcham et al, Keeler 3	*	1035
Pandem Oil Corp., Thomason 2	*	1045
Thomason 3	*	1058
Pitts et al, Dancey 1	*	1700
Shadbolt & Creighton, Butler 1	*	1360
Williams et al, Eddington 3	*	1185
CALLAHAN COUNTY—		
Ames et al, Berry 1	*	1120
COLEMAN COUNTY—		
Broderick & Calvert, Buck 1	20	1950
Continental Oil et al, M. F. Overall	¶7½	2185
Harry Gwinnup et al, Dibrell 12	*	2004
Henshaw Oil Corp., Weathered 1	*	2513
McIntyre et al, Dunn 1	*	2270
EASTLAND COUNTY—		
Lewis & Moore, Harbin 3	75	1266
McLester Oil Co., Gaily 2	*	785
SHACKELFORD COUNTY—		
Roeser-Pendleton, Inc., et al, Cook 20-C (Sec. 60)	20	1210
STEPHENS COUNTY—		
Mook-Texas Oil Co., Riddle 5	*	3705

NORTH TEXAS

Company, well and Location	Initial Production Bbls.	Depth
ARCHER COUNTY—		
Arco Oil Co., Perkins 1-A	35	1010
Perkins 2	15	635
Lester T. Burns et al, Wilson 1	*	1858
Golding-Cochran & Moran, Jackson 1	*	1580
Gulf Prod. Co., W. O. Hayter 1-A	75	1396
Kelleher et al, Andrews 1	*	1053
Lambert et al, Andrews 1	*	1002
Pandem Oil Corp. & Johnson, Wilson 1	*	1631
Panhandle Ref. Co. & Johnston, Garvey 5	10	810
F. P. Rose et al, Garvey 3-A	5	796
Stidham & Thrasher, Neilson 1	*	2558
Stump & H. Hines, Perkins 2	35	634
The Texas Co., Ferguson 1	*	1851
Texas Unity Oil Co., Cowan 2	*	1205
COOKE COUNTY—		
Kewanee O. & G. Co., Hyman 7-A	30	1275
JACK COUNTY—		
Park et al, Peek 1	*	522
K-M-A AND IOWA PARK—		
W. B. Omohundro et al, Pace 12	200	1232
John O'Neil et al, Roberts 5	*	2504
G. B. Owens et al, Roller 1	*	2012
MONTAGUE COUNTY—		
Hedrick-Camp Drilling Co., Lemon 1	*	915
Pure Oil Co., Heck 4-A	20	815
THROCKMORTON COUNTY—		
McCurdy et al, Reynolds 1	*	2008
WILBARGER COUNTY—		
Baker et al, Waggoner 1-B	340	1905
Barkley & Meadows, Waggoner 2-C	180	1890
Bass & Dillard, Waggoner 1	350	1872
Consolidated Oil Co., Waggoner 4-A	170	1856
Waggoner 1, (Sec. 24)	*	2450
J. S. Cosden & Co., Waggoner 22-B	120	2305
Fain-McGaha Oil Corp., Waggoner 5-S	100	2361
Waggoner 6-S	1750	2412
Golding-Cochran et al, Waggoner 3-D	30	2509
W. B. Hamilton & N. H. Martin, Waggoner 2-A	80	1881
Phillips Pet. Co., Waggoner 12-T	65	1880
Staley-Wynne & Co., Waggoner 1-C	*	2659
Waggoner Ref. Co., Waggoner 5-E	150	2342
YOUNG COUNTY—		
Petroleum Producers Co., Hennig 2	50	1096
F. P. Rose-Hart et al, Brocks 1	*	640
Weekly Oil Corp., Robinson 1	*	885
Wichita Prod. Co., Wilson 4	15	985

WEST TEXAS

Company, well and Location	Initial Production Bbls.	Depth
CROCKETT COUNTY—		
Taylor-Link Oil Co. & Kirby Pet. Co., Powell 2	250	2603
HOWARD COUNTY—		
Bristow & Merrick, Hooks 5	50	1884
Greene O. & R. Co., Clay 1	250	1785
JONES COUNTY—		
Phillips Pet. Co., Winters 3-A	200	2509
PECOS COUNTY—		
Mid-Kansas-Transcontinental, Yates 20-A	1300	1270
Yates 21-A	2280	1240
Yates 2-G	13,000	1277
Roxana Pet. Corp., M. A. Smith 7-A	1450	1644
HENDRICK FIELD—		
Atlantic Oil Prod. Co., Grisham-Hunter 1-G	5000	2688
Atlantic & Collett-O'Keefe, T. G. Hendrick 7-F	7000	2840
Humble O. & R. Co., T. G. Hendrick 3-C	350	2951
Independent O. & G. Co., Hendrick-Vardeman 7-B	†	2383
Pure Oil Co., Grisham-Hunter 4-C	10,900	2628
Republic Prod. Co., Ida Hendrick 2-C	50	2895
Roxana & The Texas Co., Grisham-Hunter 3	4800	2976
T. G. Hendrick 2-C	5350	2741
Skelly Oil Co., T. G. Hendrick 5	15,000	2754
Southern Crude & R. A. Westbrook, T. G. Hendrick 3-K-T-88	4700	2870
T. G. Hendrick 5-M-T-88	8000	2820



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Texas Crude Oil Rates Extended by Commission

IN granting the application of A. C. Fonda, Agent, on behalf of the Texas interested railroads, the Railroad Commission of Texas has extended from June 30 to December 30, the rates on crude petroleum, in tank cars, from various producing fields to the various refining points which were established as emergency measures to meet competition and which by the authority of the commission were to expire on June 30. A list of the rates which were thus extended until December 30 appears below. They are stated in cents per 100 pounds.

From	To	Rate
Amarillo	†Wichita Falls	.10
Amarillo	†Ft. Worth	.12
Vernon	Baytown	.21½
Vernon	Beaumont	.21½
Vernon	Chaison	.21½
Vernon	Port Arthur	.21½
Vernon	West Port Arthur	.21½
Vernon	Sabine	.21½
Vernon	Sabine Pass	.21½
Amarillo	Fort Worth	.15
Amarillo	Houston	.20
Pampa	Fort Worth	.15
Kings Mill	N. Fort Worth	.15
Cuyler	Gainesville	.15½
Panhandle	Wichita Falls	.15
Lee	Houston	.20
St. Francis	Galveston	.20
Folsom	Texas City	.20
Amarillo	Beaumont	.20
Abell	Atreco	.21½
Pomeroy	Magpetco	.21½
McBride	Nederland	.21½
Hillard	Port Neches	.21½
Borger	Smiths Bluff	.21½
Skellytown	Sun	.21½
	Sabine	.21½
	Sabine Pass	.21½
	Port Arthur	.21½
	W. Port Arthur	.21½
	Baytown	.21½
Mexia	Dallas	.11
Corsicana	Dallas	.11
Cuney	Houston	.13
Cuney	Galveston	.13
Cuney	Texas City	.13
Cuney	Baytown	.13
Cuney	Orange	.13
Cuney	Port Arthur	.13
Cuney	Sabine	.13
T. & B. V. Stations (Note 1)	Atreco	.13
	Baytown	.13
	Beaumont	.13
	Chaison	.13
H. & T. C. Stations (Note 1)	Galveston	.13
	Houston	.13
Luling	Texas City	.13
Oilfield	Lucas	.13
Sullivan	Magpetco	.13
Powell	Orange	.13
Kerens	Port Arthur	.13
Stribling	Port Neches	.13
	Sabine	.13
	Sabine Pass	.13
	Smiths Bluff	.13
	Sun	.13
	West Port Arthur	.13
Bangs	Fort Worth	.11½
Trent	*Fort Worth	.10
Trent	*Gates	.10
Trent	*Grand Prairie	.10
Trent	*Harrys	.10
Trent	*North Fort Worth	.10
Trent	*Oriental	.10
Muenster	Fort Worth	.10
Muenster	Hodge	.10
Muenster	Houston	.20
Hempstead	Baytown	.10
Steber	Port Arthur	.09
Coahoma	Fort Worth	.14½
Coahoma	Grand Prairie	.14½
Coahoma	Eagle Ford	.14½
Coahoma	Gates	.14½
Coahoma	Oriental	.14½
Coahoma	Harrys	.14½
Judkins	Fort Worth	.16
Judkins	Grand Prairie	.16
Judkins	Eagle Ford	.16
Judkins	Gates	.16
Judkins	Oriental	.16
Judkins	Harrys	.16
Midland	Fort Worth	.15
Midland	Grand Prairie	.15
Midland	Eagle Ford	.15
Midland	Gates	.15
Midland	Oriental	.15
Midland	Harrys	.15
Pyote	Fort Worth	.17
Wickett	Grand Prairie	.17
	Eagle Ford	.17
	Gates	.17
	Oriental	.17
	Harrys	.17
Trent	Gainesville	.17
Pyote	Wichita Falls	.20
Wickett	Wichita Falls	.20
Royston	Moran	.06
Ricardo	Baytown	.15
Ricardo	Houston	.15
Ricardo	Galveston	.15
Ricardo	Texas City	.15
Mirando City	Atreco	.16½
Bruni	Baytown	.16½
Noleda	Beaumont	.16½
	Galveston	.16½
	Houston	.16½
	Magpetco	.16½
	Nederland	.16½
	Orange	.16½
	Port Arthur	.16½
	Smiths Bluff	.16½
	Sabine Pass	.16½
	Sun	.16½
	Port Neches	.16½
	West Port Arthur	.16½

†Applies only as proportional rate on shipments received by pipe line and loaded into tank cars, for rail shipment from Amarillo.

*Applies only as proportional rate from Trent on shipments received by pipe line and loaded into tank cars for rail shipment beyond.

Note: Applies from Stations Mexia to Corsicana.

Mexican Review Shows Marked Shipment Decline

Tampico, Mexico.—Vessel shipments of petroleum and its products from Mexican ports of primary clearance during the month of May totaled 3,338,110 barrels, a decrease from the volume dispatched in the preceding month of 607,358 barrels. When compared with the vessel movement in May, 1927, the decrease is more marked, being no less than 2,478,438 barrels. The movement included 382,696 barrels cleared for domestic coastwise ports.

The summary follows:

From—	
Tampico	3,074,841
Tuxpam	263,269
Total, May, 1928	3,338,110
Total, May, 1927	5,816,548
Decrease May, 1928	2,478,438

The shippers were: Huasteca Petroleum Company, 1,150,197; Mexican Eagle Oil Company, 613,978; Transcontinent Petroleum Company, 483,301; Cia. Mexicana-Holandesa La Carona, 284,815; Mexican Sinclair Petroleum Corporation, 226,191; Mexican Gulf Oil Company, 160,091; Penn Mex Fuel Company, 168,236; Empire Gas & Fuel Company, 127,884; The Texas Company, 70,624; Pierce Oil Corporation, 52,793.

The past month ending June 15 saw 23 wells finished in Mexican fields located in the Tampico-Tuxpam embayment (of this number 12 can be placed in the production column, all of which were in the northern fields, save one well). New production is rated as being 5755 barrels, of which the northern fields is credited with 5655 barrels, and the south fields 100 barrels.

The best well of the month is Robert Thomas' No. 44 Isleta Grande (West Maguabes), in the Panuco field. This well was finished at 1685 feet, a shallow hole; and it is rated around 3500 barrels. Thomas is preparing to drill several more tests on this property. In the south fields, Robert Page and associates have finished No. 2 Lot 50, San Sebastian, for a dry hole at 2960 feet. The first well Page drilled in this property gave promise of being a small producer when it was completed several months ago at a less depth than this No. 2, although it, too, was a deep hole. Mexican Eagle Oil Company drilled its Laguna de Tamiahua 43 into salt water at 2121 feet, the drill being reported as being in the Tamasopa limestone at that depth. This test marks another failure in the thus far bootless search for an extension of the pay horizon of the old San Diego field on the mainland bordering the western edge of the lake. If the drill encountered the Tamasopa at the comparatively shallow depth indicated the information thus obtained will be of academic value to the geology of this lake district.

The completions for the month, by districts, follow: Northern fields: La Carona (Royal Dutch Shell), Cacalilao 203-A, 1632 feet, rated 200 barrels; Cacalilio 207, 1800 feet, 20 barrels; Panuco 155, 1505 feet, 400 barrels; Panuco 159, 1627 feet, 300 barrels; Panuco 158, 1644 feet, 75 barrels; Panuco 154, 1710 feet, salt water; Mexican Sinclair Petroleum Corporation, Cacalilao 241, 1798 feet, 100 barrels; Ca-

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3600′ 6⅝″ 24-lb. seamless casing.	1200′ 12½″ 50-lb. casing.
200′ 20″ 90-lb. casing.	2000′ 10″ 45-lb. casing.
500′ 15½″ 70-lb. casing.	2800′ 8¼″ 32-lb. casing.

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calilao 243, 1854 feet, failure; Cacalilao 244, 1903 feet, dry hole; Cacalilao 246, 2710 feet, dry hole. Transcontinental Petroleum Company, Paciencia 55, plugged and abandoned; Cacalilao 15, 1810 feet, 100 barrels; Cacalilao 240, 1625 feet, salt water; Paciencia de Aguacate 21-A, 2455 feet, 350 barrels. National Railways, Ferronales 89, set two-inch at 1845 feet, may make small producer. Robert Thomas Isleta Grande 44, 1685 feet, 3500 barrels. Cia. Pet. Territorial, Panuco 48, 1885 feet, 500 barrels. Aztlan Investment Company (Magnolia), Utah 15, 1805 feet, 200 barrels.

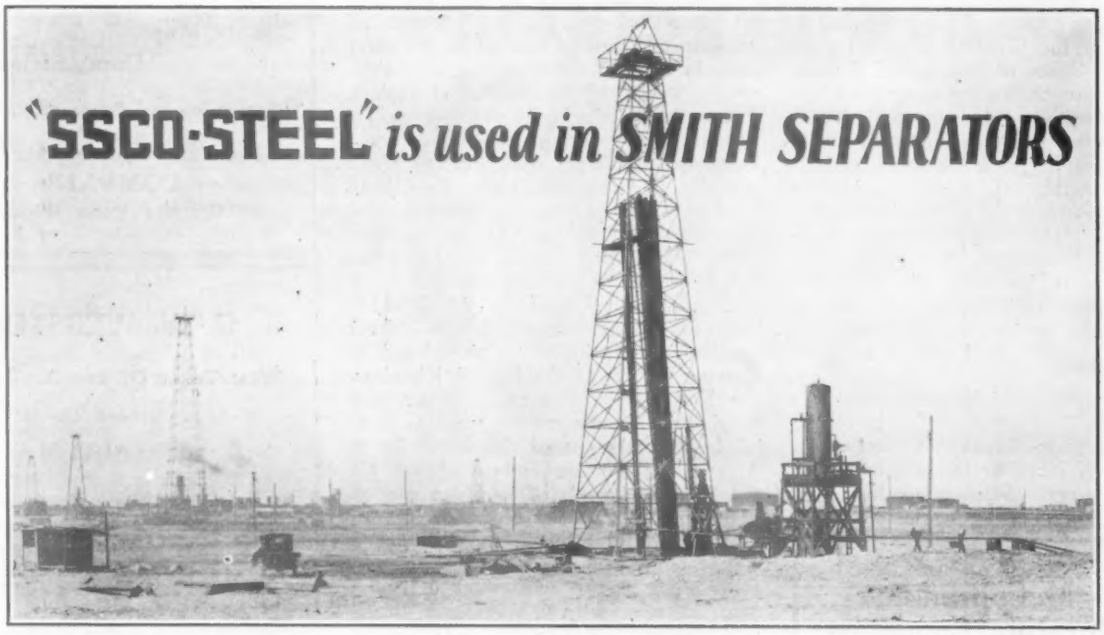
South fields: Mexican Eagle Oil Company, Tamiahua 43, 2121 feet, salt water; Tierra Amarillo 22, 4160 feet, dry hole. Trancontinental Petroleum Company, Zacamixtle 8, Lot 17, 2229 feet, 100 barrels. Penn Mex Fuel Company, Alamo 34, 2248 feet, salt water. Robert Page, San Sebastian 2, 2960 feet, dry hole.

Permits to drill a number of wildcats have recently been requested of the Department of Petroleum. Transcontinental Petroleum Company, through a subsidiary, Cia. Pet. Olympia, seeks two such permits for locations in Magiscatzin, State of Tamaulipas. The first one is for Las Rayas 1, which is located some 17 kilometers southwest of Rosillo station, on the Tampico-Monterrey division of the National Lines. The second permit is for Cardiel 1. Cia. Terreno Petrolera El Imperio (Doherty interests), which has extensive holdings in Tamaulipas, is seeking to commence drilling in portion 9, Canton of Altamira, in a sector known as San Francisco. Down south, in the State of Vera Cruz, Union Oil Company (of California) is preparing to re-enter Mexico, where it has maintained intact considerable acreage, at Miahuapa, just south of the extensive Castillo de Teayo sector. Union has recently completed a road from Castillo de Teayo to its locations in Miahuapa to afford transport facilities to the latter place. It is prepared to test the property in question with from one to six wells.

The June rainy season is slowing routine field work to some extent.

Los Angeles—Following the purchase of a 100-acre lease from the R. D. Clarke Oil Company, the Exeter Oil Company is actively engaged in cleaning out and deepening wells on the property, which is located a short distance north of Fillmore. The lease has been producing oil from shallow sands for 30 years and will yield a much larger production when drilled to deeper layers of sand. The wells that have been deepened have produced from considerably below the present depth of the shallow producers.

"If its' worth drilling for, it's worth saving"



8 Smith Oil & Gas Separators Safeguard this Lease with Money-Making Protection!

Smith Separator construction is the result of years of experience, using "SSCO-STEEL," the new uniform tensile strength steel, especially designed to meet the varying need of Separator service. The Smith Oil and Gas Separator is the only Separator made of "SSCO-STEEL"—a quality product—backed by field service at all times—whose efficient and dependable operation under all conditions make it the most economical investment of its kind, as well as the one which yields the highest return over a period of years. Their rated capacity provides for a reasonable amount of overload, as has been proved in numerous installations.

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Today every well on most leases is Smith Separator equipped, such as is shown in the photograph above—where the production on eight wells of T. G. Hendricks lease of the Humble Oil and Refining Company is handled in a closed system from well to tank, minimizing the fire hazard and increasing the value of the oil by maintaining its original gravity. An increase of 1% in gravity means a 2% increase in production. A Smith Separator representative will gladly place before you interesting and valuable facts concerning the money making possibilities of Smith Separator protection.

SMITH SEPARATOR COMPANY
Tulsa Okla.

HOUSTON FORT WORTH SHREVEPORT
LOS ANGELES NEW YORK

LONDON OFFICE:
Perkins & Mac[illegible]ish Petroleum Tool & Boring Co., Ltd.

Export Movement of Oils Through Gulf Ports

Washington.—In line with averages maintained during the preceding seven years, 48 per cent. of the gasoline and 46 per cent. of the kerosene exported from the United States in 1927 passed through three ports of the Gulf Coast: New Orleans, Galveston (Houston and Texas City) Sabine, (Port Arthur and Beaumont), according to a statement analysis made by Arthur H. Redfield, assistant economic analysist of the United States Bureau of Mines, Department of Commerce.

"These ports, however," the statement declared, "handled only 20.3 per cent. of the national exports of fuel oil and gas oil in 1927, as compared with 36 per cent. in 1924 and 51 per cent. in 1921.

"Less gasoline and kerosene were exported in 1927 from these ports to the United Kingdom, France and Italy than in 1926, and more to the smaller countries of Europe. Sales of fuel oil and gas oil to Europe, to Central America and to the West Indies increased. Canada, Cuba, Spain and Germany bought more crude oil from the Gulf Coast.

"Western Europe received more than nine-tenths of the 20,458,477 barrels of gasoline exported in bulk from the three ports in 1927. Five-sevenths of these shipments went to the United Kingdom, France, the Netherlands and Sweden. Of the 806,099 barrels of gasoline exported in containers, 42 per cent. went to South America, chiefly to Argentina, Brazil, and Uruguay; 29 per cent. to Australia and New Zealand; 12 per cent. to Africa; nearly nine per cent. to the Far East; and the rest to the Caribbean region.

"Nearly 81 per cent. of the 7,796,553 barrels of kerosene exported in bulk from the Gulf Coast in 1927 was shipped to Europe, chiefly to the United Kingdom, the Netherlands, France, Germany, and Belgium. Fifteen per cent. went to British India, and most of the remainder to Algeria and Tunisia, and to China. Of the 1,139,260 barrels of kerosene exported in containers 43 per cent. was shipped to Asia, chiefly to China, Hong Kong, and Kwantung and to the Philippine Islands. More than 24 per cent. went to South America, principally to Argentina, Brazil and Uruguay. Africa received 15.6 per cent. Australia and New Zealand 10.7 per cent. and the Caribbean region 6.1 per cent.

New Pipe Line Uses Centrifugal Pumps

Since the introduction of centrifugal pumps for pipe line service a few years ago, many interesting installations have been made. These range in size from one or two pumps on short lines to entire stations handling oil over long distances. Among the most recent applications of centrifugals to oil pumping is that by the Oklahoma Pipe Line Company on its line from Oklahoma to Baton Rouge, Louisiana. The line is approximately 500 miles in length. It originates in Southeast Oklahoma, passes through the extreme southwestern corner of Arkansas and enters Louisiana at a point directly north of Shreveport.

R. L. DeLoache, of the Atlanta Service Department, Westinghouse Electric and Manufacturing Company, describes the installations in a special paper sent out by the Westinghouse Electric and Manufacturing Company. The following in-

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AN EXPERIENCED OIL FIELD ORGANIZATION

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WEST TEXAS

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HEYDRICK MAPPING COMPANY
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C. W. WEBSTER

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⅜ *Mineral Deeds*
ROYALTIES

15 Years in Texas
Reference: Mercantile Agencies

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EDWIN B. HOPKINS
CONSULTING GEOLOGIST
25 Broadway
NEW YORK

formation is taken from Mr. DeLoache's paper:

The 1000-horsepower centrifugal pumps employed at intervals along the line are the largest yet applied to oil pipe line pumping service. Each pump is driven by a 1000-horsepower, 1750 rpm. 2300 volt, three phase, 60 cycle squirrel cage induction motor. Squirrel cage motors were specified on account of the reduced fire hazard due to their construction. The motor starting and control equipment was specially designed for oil pipe line pumping service with the view of reducing the fire hazard to the minmum and at the same time securing the utmost in reliability.

The 1000-horsepower squirrel cage induction motors are started through an auto-transformer having a 50 per cent. voltage tap. The closed transition method of starting is used.

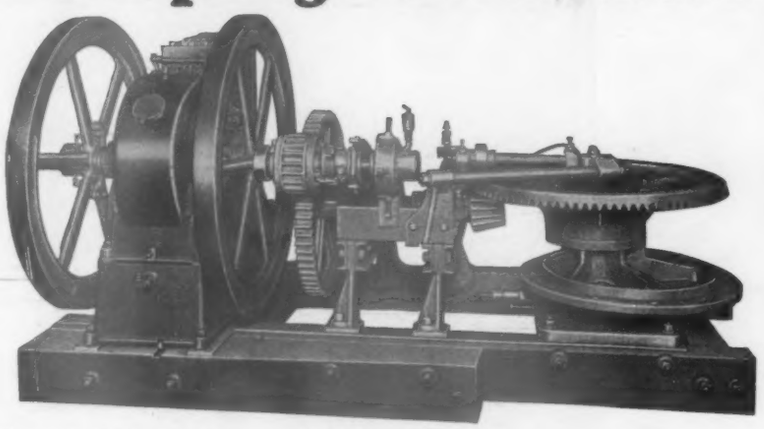
In this method when the motor is transferred from reduced voltage to full line voltage, the circuit is not opened but remains closed through a resistor. It is claimed that this method reduces line surges to a minimum and insures smooth starting.

Oil circuit breakers were used throughout instead of air-break contactors. These oil circuit breakers are operated by alternating current motor-driven mechanisms, working on the centrifugal principle. The motor revolves a pair of weights at high speed. As the speed increases, the weights are thrown outward from the shaft with considerable force. By means of a suitable set of toggle links, this force is communicated to the oil circuit breaker, closing it almost instantly. The energy to the motor is cut off by means of a limit switch on the mechanism. The mechanism is mechanically tripped free so that it is impossible to hold the breaker in the closed position if an overload or short circuit exists on the line.

The pump motors are started by pressing a push-button. This initiates the starting sequence and the subsequent operation of the control equipment is then entirely automatic. Green, white and red indicating lamps are provided on the panel to show the position of the starting equipment at all times. These lamps allow the operator to check the operation and give a visual indication of what is happening. The motor is stopped either manually by means of the stop button or automatically by means of two contact making pressure gauges. These gauges have scales reading 0-1000 pounds per square inch and the contact setting is adjustable. One gauge is connected on the intake and one on the discharge side of the pump by means of three-eighths-inch extra heavy pipe. Either gauge will trip the oil circuit breaker and stop the motor when the pressure rises to the point where its contacts are set.

Complete copies of the paper may be secured by writing the Technical Press Section of the Westinghouse Electric and Manufacturing Company, East Pittsburgh, Pennsylvania.

Lightning Oil Well Pumping Power No. 3



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Equipped 12 h. p. Stover Engine, Madison-Kipp Lubricator, or without engine, especially built for electric motor drive. Double gear reduction. No Counter shaft required.

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p-838-L

Famous Keokuk Dam and Power Plant on the Mississippi River

What is a Million?

What is a million horsepower? A million horsepower would require the building of six of these tremendous hydro electric power plants. A million horsepower would meet every electrical requirement of a community of over three million people. And yet a million horsepower is not enough to balance the past year's tremendous output of Waukesha Engines.

Public utilities must furnish 24-hour a-day service—their plants run continuously. Waukesha "Ricardo Head" Engines are designed for the same kind of service. Their ratings are based on continuous operation at moderate R.P.M. Based on these conservative ratings, new Waukesha Engines aggregating 1,275,582 horsepower, went on active duty during the twelve months ending May 30, 1928. What power do you use?

P-853-L

OIL INDUSTRY EQUIPMENT DIVISION

WAUKESHA MOTOR COMPANY

Waukesha Wisconsin

New York	Tulsa	Houston	San Francisco
8 W. 40th St.	C. F. Camp Co.	Portable Rig Co.	C. A. Watts

Exclusive Builders of Heavy Duty Gasoline Engines for Over Twenty Years

NEW EQUIPMENT, CATALOGS, BULLETINS, BOOKS

Bessemer Field Engine

BESSEMER GAS ENGINE COMPANY

The Bessemer Engine Company has just announced the addition of another engine to its line of oil field power equipment. This new engine is a four-cycle engine and is built with adjustable roller bearings in the crankshaft, lay shaft and governor. The use of roller bearings minimizes friction loss. In its general features of construction it is very similar to the standard four-cycle Bessemer oil field engine — employing the Bessemer cross-head construction, enclosed bed plate, combination force feed and splash lubrication and simplified valve mechanism.

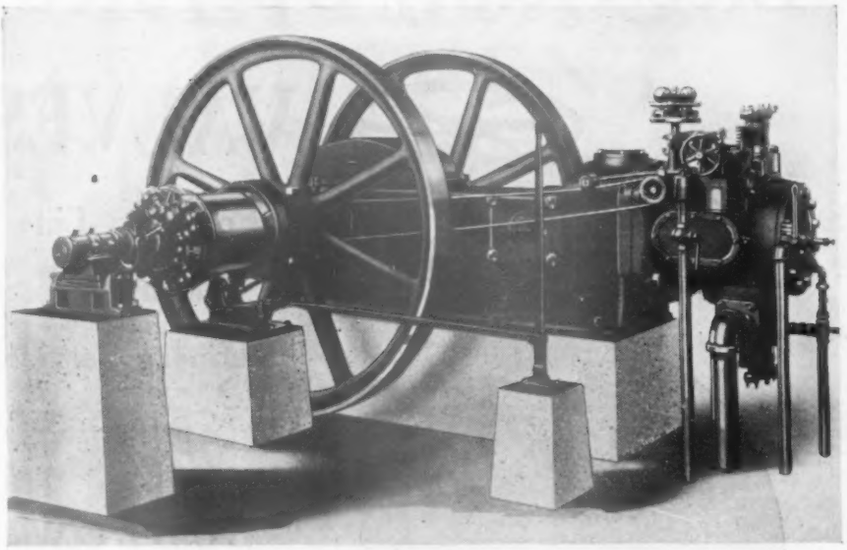
It is practically a duplicate of the standard Bessemer four-cycle oil field engine with the exception of the use of roller bearings for main bearings. In fact many of the parts in the new engine are interchangeable with parts of the two-cycle oil field engine. Among these parts are the main frames, flywheels, cross-heads and connecting rods — interchangeable in new four-cycle engine and two-cycle oil field engine.

The main frame or bed plate is enclosed with bored crosshead guides, and openings are provided for easy access to all parts for replacement or adjustment. It consists of a sturdy close grained gray iron casting — oil tight and dust tight, permitting the use of splash lubrication.

The cross-head is of typical Bessemer construction, consisting of steel castings fitted with adjustable bronze shoes.

The connecting rod is of the marine type — made of an open hearth steel forging. Both cross-head and crank pin boxes are of bronze, while the crank pin box is babbitt lined.

Charles L. Lockett, until lately manager of the Rocky Mountain division for The International Derrick and Equipment Company, is enroute to Maracaibo, Venezuela. Mr. Lockett has been identified with the International organization for several years, and will make a comprehensive survey of the Venezuelan and Colombian oil fields.



New Bessemer Pumping Engine

Star Drilling Machine

STAR DRILLING MACHINE COMPANY

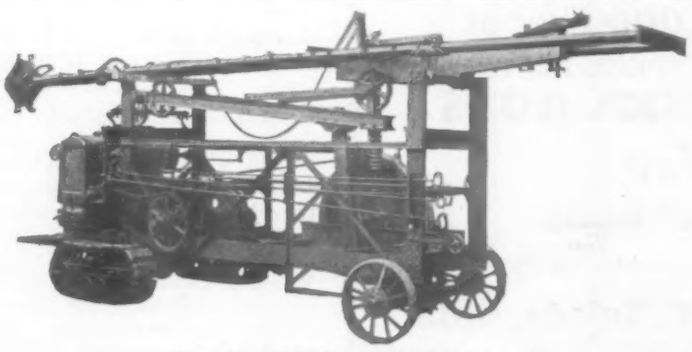
Of interest to shallow field operators is the new Star No. 42 1000-foot drilling machine.

This new Star machine is practically all steel. Its improved frame work design makes it unusually strong and rigid. Yet it is light enough to handle easily in cramped quarters. Automotive type steering and three speed drive to traction attachment makes moving easy.

The construction embodies wire line spudder, with independent clutch drive; chain driven bull wheel with metal brake wheel and band; friction driven sand reel of improved type and a steel "A" type mast. The Star 42ST is equipped with a 40 horsepower four-cylinder engine with three speed transmission, providing a wide range of power and pulling speeds for all classes of work.

The No. 42 is offered in the super-tractor model, patterned after the large oil country Stars. Also in round wheel tractor type with steel or rubber tires and in non-tractor type, which can be furnished less power unit for use with tractor or other separate power or with electric motor.

Full information can be had from the manufacturers, the Star Drilling Machine Company, Akron, Ohio.



Star No. 42 drilling and cleaning out

New Pipe Line Paint

E. I. du PONT De NEMOURS COMPANY

To prevent the corrosion of iron or steel pipes where not in continued contact with mineral oil or petroleum distillate, a new asphalt paint has been developed by research chemists and engineers, according to announcement by the Paint and Varnish Division of E. I. du Pont de Nemours & Company.

This paint is an emulsion of asphalt and water. It is known as asphalt chromate emulsion, "chromate" being used to indicate the presence of chromium salts, a chemical ingredient which is added to render ferrous metal "passive" to corrosive action while the water medium is drying out of the paint. When dry, the coating is a practically pure asphalt, possessing all of its essential properties by reason of the fact that neither solvents nor cut-back ingredients are introduced in the making of the emulsion.

The new paint is expected to supply demand in the oil industry for a coating with its peculiar characteristics. It is intended largely for the painting of underground pipe lines and pipes exposed to the weather. But the paint can be used for various other purposes. Either a brush or a spraying outfit may be used in applying the emulsion, which is put on cold and dries thoroughly in seven to eight hours.

More information may be obtained from the E. I. du Pont de Nemours & Company, Wilmington, Delaware.

Electrically Operated

VALVES

For Pipe Line and Refinery Service

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Specify Your Requirements

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Made in Both Box and Pin and Double-Pin Types

S. M. JONES COMPANY, Toledo, Ohio

TULSA OFFICE: 422-423 McBIRNEY BLDG.

Welding Booklet

An illustrated welding handbook, filled with photographs, charts and data sheets, has recently been published by the Stoody Company of Whittier, California.

The publication of this new one hundred page book on the application of both plain and hard facing metals to drilling tools and equipment, is known as "Oil Field Welding" and is the result of a long period of study of the conditions of welding and its various uses in and about the drilling departments of the oil companies throughout the world.

Division of this book into seven sections makes it easily readable, clear of construction and digestable by even the most humble laymen.

The fourth of these sections, devoted to the application of hard facing metals to drilling bits, and the rebuilding of drilling equipment by rods other than hard facing ones, is especially interesting to all operators.

Copies may be obtained from the company, by request.

Walter T. Hazel, formerly of Parkersburg, West Virginia, is now identified with the International Derrick & Equipment Company of Columbus, Ohio, in connection with the marketing of "IDECO" oil well equipment. He has for the past ten years been successively advertising manager, export and sales manager of the Parkersburg Rig & Reel Company. He will have charge of sales promotion and sales research for the International Derrick & Equipment Company.

Announcement has been made by The Chisholm-Moore Manufacturing Company, Cleveland, that since the purchase of the company by the Columbus McKinnon Chain Company, the company will be known henceforth as Chisholm-Moore Hoist Corporation.

At a recent meeting the following directors and officers were named:

Julius F. Stone, president; Julius F. Stone, Jr., vice-president; J. C. Dunn, vice-president and treasurer; Frederick Mitchell, secretary; Julius F. Stone, Julius F. Stone, Jr., J. C. Dunn, A. L. McKinnon and Frederick Mitchell, directors.

John R. Mears continues as sales manager of the new corporation.

Columbus, Ohio—Inland Gas Corporation has completed plans for the construction of a 136-mile gas gathering system for the transportation of natural gas from the Floyd and Knott Counties fields of Kentucky to markets at Olive Hill and Ashland, Kentucky, and Huntington, West Virginia. Contract for laying this system was recently awarded the Hope Engineering and Supply Company. Three compressor stations of a combined 2080 horsepower will be installed.

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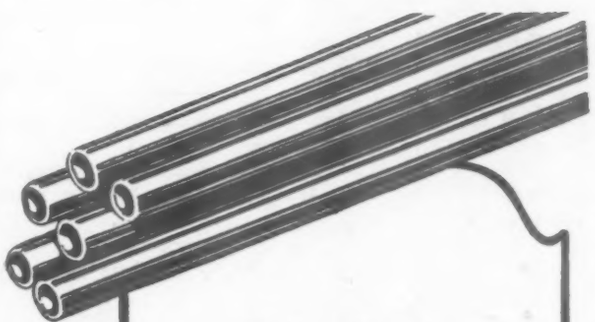

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Boiler Tubes

Charcoal Iron
for bad water conditions—

Lapweld Steel
for good water conditions—

For long tube life.

The Tyler Tube & Pipe Co.
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Texas Stock—Harrisburg Pipe and Pipe Bending Co., Houston, Texas

Oklahoma Stock—Harrisburg Supply Co., Tulsa, Oklahoma.

ASCO STEEL
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Every step in the production of Asco Steel is watched closely. From the selection of the raw materials to the finished product, the first thought always is to produce a steel that will give the best results to the makers of Oil Well Tools. Can we help you to produce better tools?

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Say you saw it in The OIL WEEKLY

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FLUID PACKED PUMP

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Pumping expenses go down with the Fluid Packed Pump. It will wear longer, because of its anti-friction principle. It will save sucker rods, belts, wear and tear on machinery and rig equipment. Fluid Packed Pump owners avoid fishing jobs and emulsification caused by friction pumps.

West Texas Representative:
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Fluid Packed Pumps are manufactured *only* by the Fluid Packed Pump Company of Los Nietos, California, and distributed in Texas exclusively by the

ROBERT J. MILLER COMPANY
HOUSTON TEXAS

SQUEAKS FROM THE BULL WHEEL

A Scotchman, not feeling so well as usual, called on his family doctor, who looked him over and gave him some pills to be taken at bedtime. Whiskey was also prescribed for his stomach's sake, a small glass to be taken after each meal.

Four days later Sandy again called on the doctor, stating he was feeling no better.

"Have you taken the medicine exactly as I instructed?" the doctor inquired.

"Weel, doctor," replied the patient, "I may be a wee bit behindt wi' the pills, but I'm six weeks ahead wi' that whusky."

1907—Ankle peepers.
1928—Freedom of the Knees.
1948—Hip! Hip! Hurray!

"Is your daddy home, Sonny?"
"No sir. He hasn't been home since Mamma caught Santa Claus kissing the maid."

First Hobo—When I lie down for a quiet think I realize how tempus fugit is creepin' on.

Second Hobo—I couldn't have told yuh de foreign name, but dey're creepin' on me, too!

Eloise—Mama, who has the foot and mouth disease?

Mama—Papa does during the golfing season, dear. He hoofs it all day and mouths it all night.

"Offisher, you'd better lock me up. Just hit my wife over the head with a club."

"Did you kill her?"

"Don't shink so. Thash why I want to be locked up."

Blouch — You'd never think this street used to be a cowpath, would you?

Skinner—Oh, I don't know; look at all the calves on it.

Jack—"Ever hear the story about the pair of tights?"

Larry—"No."

Jack—"Once upon a time there were two Scotchmen."

Waiter—Are you Hungary?

Guest—Yes, Siam.

Waiter—Den Russia to the table and I'll Fiji.

Guest—All right, Sweden my coffee and Denmark my bill.

"Boy! When Ah kisses ma wife she jes closes her eyes so tight."

"Ah'll say she do."

"What's dat?"

"Ah say, do she?"

Mother—"It is whispered that you and John aren't getting on!"

"Nonsense! We did have some words and I shot him, but that's as far as our quarrel ever went."—Judge

---

What did he say when you gave him the third degree?

He merely dozed off and said: "Yes, my dear, you are quite right."

The local church was making a drive for funds, and two colored sisters were bearing down hard on Uncle Rastus.

"I can't give nothin'," exclaimed the old negro. "I owes nearly everybody in dis here old town already."

"But," said one of the collectors, "don't you think you owes de Lord somethin' too?"

"I does, sister, indeed," said the old man, "but he ain't pushin' me like my other creditors is."

Is your husband tight?

Is he? Say, every time he takes a penny out of his pocket the Indian blinks at the light.

I thought you said you gave your horse turpentine for distemper last week.

I did.

Well, I gave my horse some yesterday and he died.

So did mine.

"Are you a clock watcher?" asked the employer.

"No, I don't like inside work," replied the applicant. "I'm a whistle listener."

Doctor: "You certainly have acute appendicitis."

Fair Patient: "Oh, Doctor, you flatter me."

"Now, I'm getting into the game," said the tadpole, as the wold duck swallowed him.

Far worse than a giraffe with the tonsilitis is a centipede with ingrowing toe nails.

Now, Willie, I want you to go in and get acquainted with the new nurse and kiss her nice.

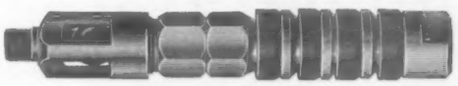
Willie—Yes! and get my face slapped like papa did.

"I'm glad my wife is built long and thin, sorter like a shoestring, as you might say," stated Gap Johnson of Rumpus Ridge.

"Why?" inquired an acquaintance.

"Well, she don't shade the corn while she's hoeing of it like a fat woman would."

PRO



TEX

Why not give the Protex Valve a trial? Loss of Cup or Cup Rings impossible because lock-nut holds the cups in correct position and at required tension. Ask your supply store about Protex.

The Chas. N. Hough Manufacturing Co.
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Products That Cut Down Your Underground Overhead

Approved for Field and Refinery Service

Stanley

Solid Woven Cotton Belting

The Most Uniform Belt Made

Samples cut from a roll of Stanley 5 years old tested up equally with those from a roll only 6 months old.

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Made in accordance with A. P. I. specifications

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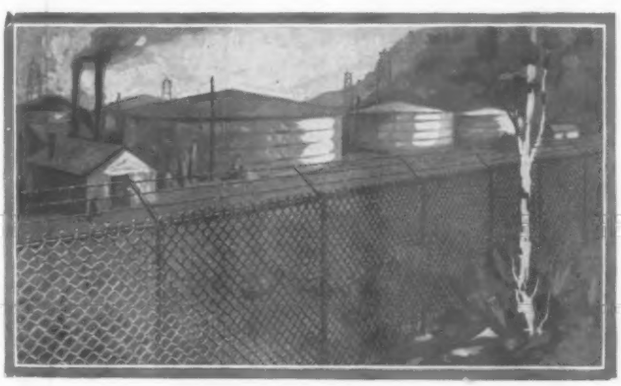
500 E. 3rd St.,
Los Angeles, Cal.

Black Transfer Co.,
El Dorado, Ark.



If you want facts on fence—on any individual requirement, on differences in materials, manufacture and erection as a basis for comparison of true fence values—call a Cyclone representative. Without obligation, phone, wire or write nearest offices.

TEXAS CYCLONE FENCE COMPANY
Works and Offices: Fort Worth
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The Mark of Dependable Property Protection

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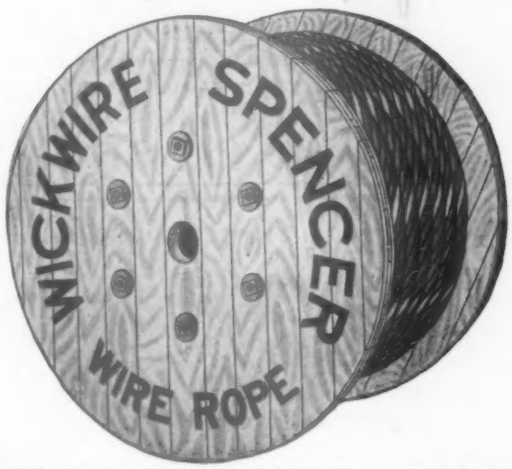
For Strength and Uniformity Use



Murray Tool & Supply Co., Tulsa, Oklahoma
T. J. Word Supply Co., Houston, Texas
A. F. Keck & Co., Butler, Pa.

WICKWIRE SPENCER STEEL COMPANY
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tests better than A. P. I. specifications

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Red and Pale Paraffine Oils

General Sales Offices: PITTSBURGH, PA.

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Providence, R. I.
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Port Tampa, Fla.
Mobile (Magazine Point, Ala.)
Philadelphia (Girard Point, Pa.)
Charleston, S. C.
Savannah, Ga.
New Orleans (Gretna, La.)
Port Arthur, Texas
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CLARK DRILLING ENGINE

Effects Maximum Fuel Savings—Has No Water Expense

The CLARK Drilling Engine operates at a minimum cost for fuel, and requires no water except for cooling. The widespread popularity of this engine is clearly explained by its tremendous fuel savings and absence of water expense.

Requiring but 7000 feet of gas or 75 gallons of gasoline per 24 hours, the CLARK effects fuel savings which soon mount to impressive figures. Oftentimes it can be operated on the gas available where other drilling engines would necessitate the expense of hauling more costly fuel.

Using water only for cooling, the CLARK not only makes water hauling unnecessary, but does away with the expense and loss of efficiency suffered by some drilling engines on account of scale.

In addition to fuel and water economy, the CLARK Drilling Engine offers the advantages of an efficient drilling motion, ample power for all drilling operations, and quick and easy portability. The clutch, which costs 4 to 7 times as much to build as any other drilling engine clutch, is extremely rugged and durable. Full derrick floor control is provided.

Ask our engineers for detailed information on this economical and efficient engine. Clark Bros. Company, Olean, N. Y. Branches and Warehouses: 125 W. First St., Tulsa, McCamey and Sweetwater, Texas, and Artesia, N. M. California: Smith, Booth, Usher Co., 228 S. Central Ave., Los Angeles, and 50 Fremont St., San Francisco.

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Two 250 horsepower, 3600 R. P. M. motors driving centrifugal pumps in West Texas

This electric pipe line pumping station can be operated more than five years for the difference in the installed cost of any other form of power.

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